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The Bay Area's Computer Magazine
May 14, 1990 • 69
FREE

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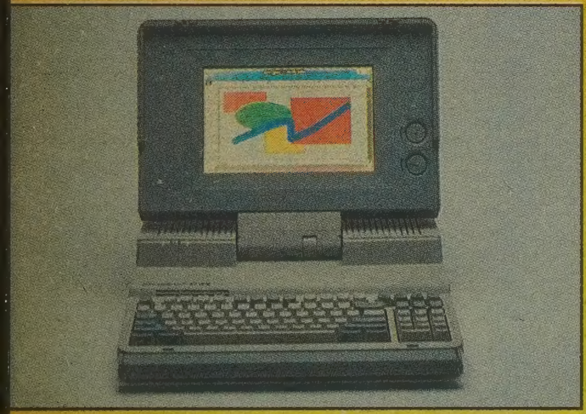
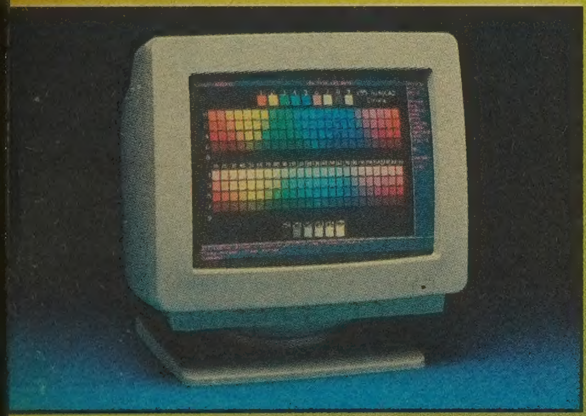
COLOR
The Next Frontier

COLOR PRODUCT HIGHLIGHTS: PRINTERS, SCANNERS, MONITORS, SOFTWARE AND MORE



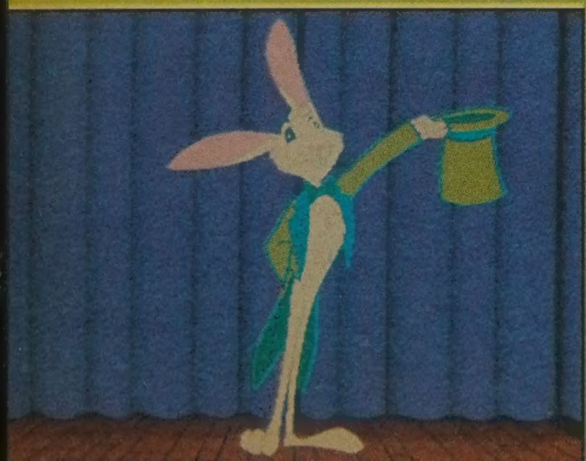
NEC's Color Portable Page 32

"This computer is the beginning of a revolution that will undoubtedly come to dominate the laptop field. In time, most portables will have color displays."



Choosing A VGA System Page 60

"If you're running graphics, CAD/CAM, desktop publishing; icon-driven menus, 1024 X 768-pixel display standards make your screen come alive. Crisp lines, sharp colors, and dynamic images will provide new windows into your work."



Professional Animation Studio With Amiga Page 68

"Disney animator Heidi Turnipseed has handily replaced expensive gear for a few thousand dollars with an 8mm camcorder, a digitizer, a genlock, a few pieces of software and an Amiga 2000."

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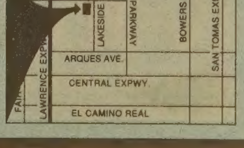

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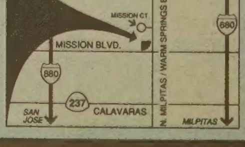

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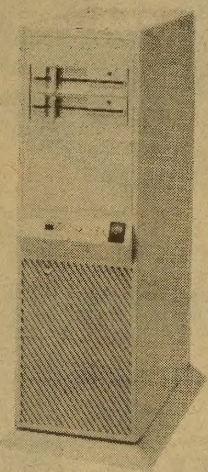

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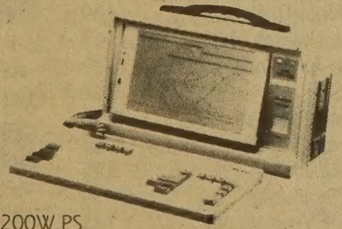

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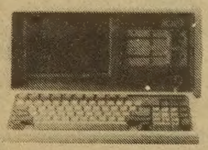

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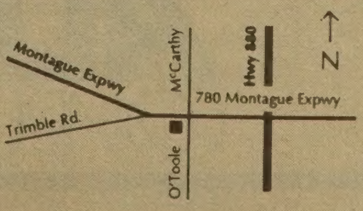

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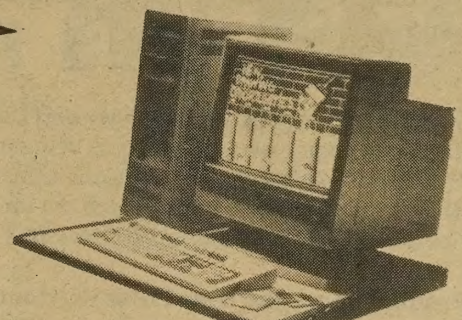

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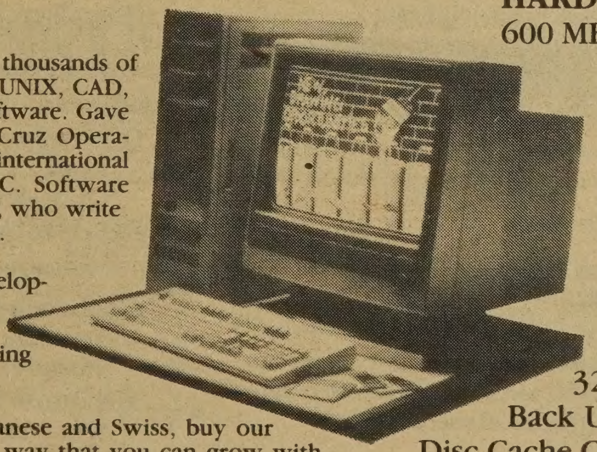

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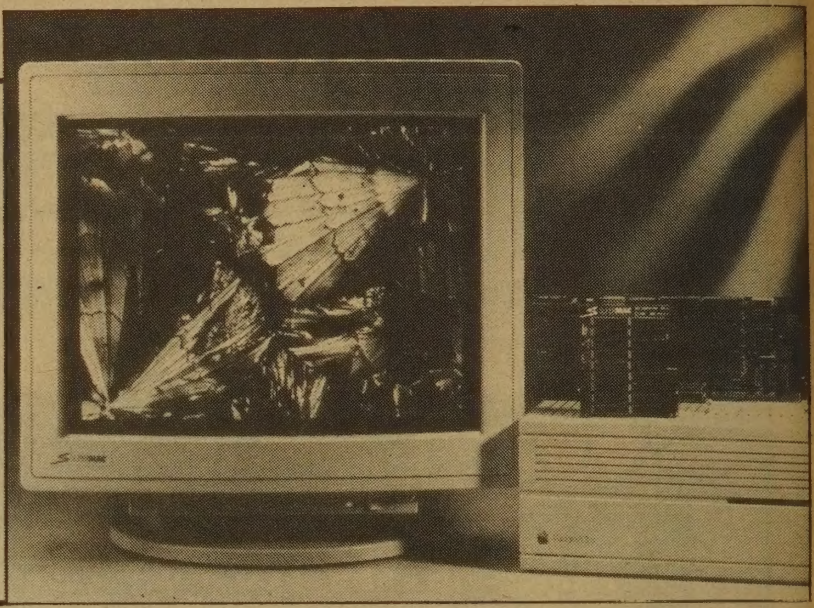

A NOTE FROM THE EDITORS:

This issue of MicroTimes introduces a new look and feel to the publication, intended to make an even wider variety of information more easily accessible to our readers. We've expanded our new Business Solutions section, added a Creative Tools section, and combined some old departments into a new and more complete Resources section. Game reviews—an old favorite neglected in recent months—is back in our Product Spotlight section, along with other product news and upgrade announcements. We'd like your feedback on these changes. Please write: MicroTimes Letters, 5951 Canning St., Oakland, CA 94609.

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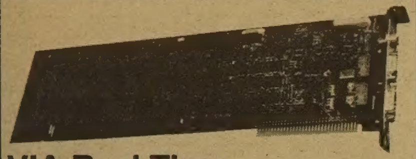

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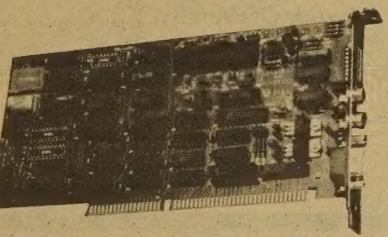
Acquisition Time	1/60 second for NTSC signal 1/50 second for PAL signal
Controls Input	Brightness, Saturation, and the Hue NTSC or PAL composite color, 1 V p-p inc. sync (RCA jack) VGA loop-through (DB9)
Output Display	VGA monitor, Multi-Sync, Analog RGB monitor
File Output	GIF, TIFF, PCX, IMG, or Jovan proprietary VI format
Form Factor	Single slot PC/XT/AT bus

SYLVIA Capture Board

Spatial Resolution	640x480/320x240
Depth Resolution	8 bits (256 grey levels, 16.7 million colors)
Input Compatible	(NTSC or PAL) video or Monochrome (EIA 60 Hz or CCIR 50 Hz) 1 V p-p (RCA jack)
Switches/ Jumpers	Separate termination for each input Monochrome/composite of RGB input select Base address select



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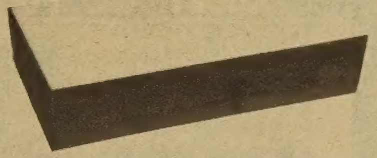
Switches	Automatically Switches Signal to correct output
	NTSC or S-VHS Output Fixed Frequency or Multi-Frequency monitor internal of Sync-Locked Color Burst
Software	Included with VIN Demo program Configuration help Ram Resident control Routines
Dimensions	6 3/4"x4 3/8"x 1 1/2



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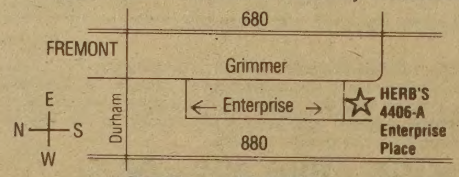

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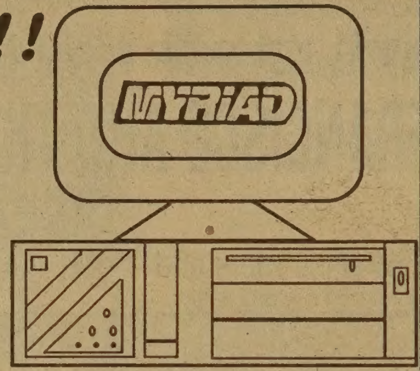

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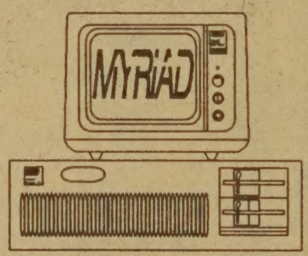

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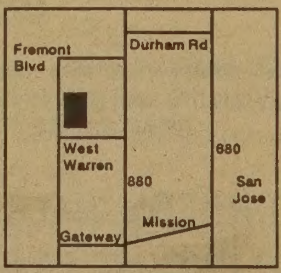

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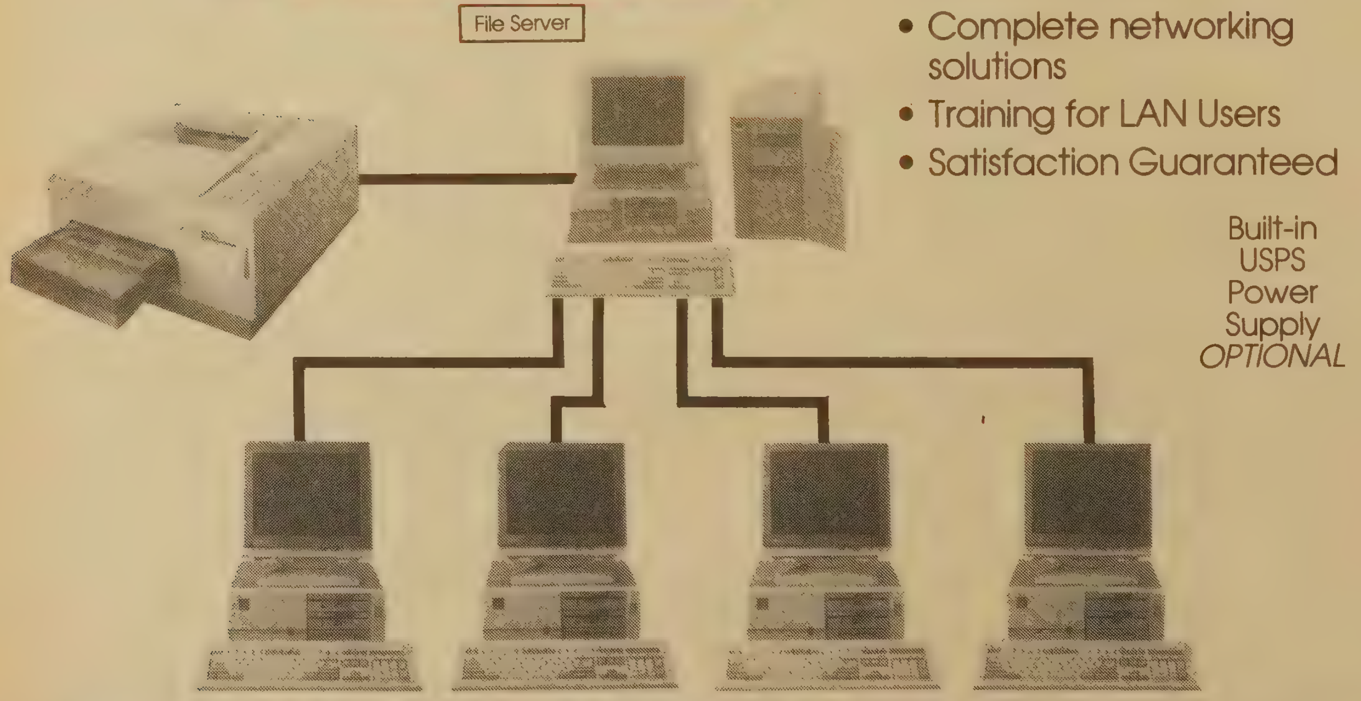

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1985–Introduction of the 286 AT motherboard.

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1987–Introduction of the 386-25MHz AT motherboard. Opened our second office in U.S.A. - Houston, TX.

1989–Introduction of the 386-33MHz w/64K cache. Introduction of the 486-25MHz motherboard.

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INDUSTRY INSIGHT

BY PAUL HOFFMAN

Paul Hoffman is an industry analyst who has been covering microcomputer technology for ten years. He can be reached on USENET (phoffman @well) and MCI Mail (264-3171). He also writes popular microcomputer books.

MOTOROLA AND HITACHI LAWYERS THUMB NOSES AT JUDGE

Why settle a silly lawsuit when you can run up huge legal bills and jeopardize US-Japan high tech consortiums? That is the stance that lawyers for both Motorola and Hitachi took when the judge in their chip copyright infringement case attempted to force them to settle their differences out of court.

The case involves the design and implementation of Motorola's 68030 and Hitachi's H8 microprocessors. The 68030 is used in many Apple Macintosh computers as well as many low- and middle-range UNIX computers manufactured by many companies. Hitachi's H8 is used mostly for disk and printer controllers, mostly by Japanese and European manufacturers.

Even though the two companies have a wide-ranging technology trade agreement, Motorola unexpectedly sued Hitachi in January of 1989 for infringing on their copyrights and using trade secrets to make the H8. Hitachi immediately countersued and claimed that Motorola infringed on Hitachi patents.

The judge in the case, Federal District Court Judge Lucius Bunton in Austin, Texas, forced both sides into a super-fast trial in order to get both sides to agree out of court. The judge repeatedly criticized the lawyers for both sides for being more interested in litigation than in settling the suit. After the three-day trial, the judge ruled that both sides had violated each other's copyrights and gave them relatively light fines given the number of chips involved: Motorola had to pay Hitachi $500,000 and Hitachi had to pay Motorola $1,900,000. Part of the ruling read, "The parties would have saved time, money, feelings and relations had they curbed their emotions and sat down to settle their difference out of court."

The judge then added a twist that shocked everyone: he ordered both sides to stop shipping their infringing chips. This, of course, would hit Motorola much harder than Hitachi, but it was widely speculated that it would force both sides to quickly settle their differences out of court. In his ruling, Judge Bunton was openly critical of the two companies for not settling earlier.

The day after the announcement, the computer press was filled with predictions of a quick settlement. The presidents of many companies reliant on the 68030 called Motorola and were assured that their supply would not be seriously affected. Instead, Motorola's lawyers decided to appeal the parts of the ruling that went against them, and Hitachi's lawyers did the same. No one indicated that any serious discussions took place.

Facing the intransigence on both sides, the judge stayed his non-distribution order until at least June 18. Since it was clear that neither side was going to settle and was more interested in legal maneuvering than in putting the case behind them, Judge Bunton allowed them to continue to sell the infringing chips.

He stated again that he hoped the parties could reach an out-of-court settlement, although many industry sages now think that it may be impossible, since the attorneys seem to be in charge of the case.

LOTUS ANNOUNCES BUSINESS CONTACT DATABASES

If you thought that your mailbox and home phone had been saturated by every possible mass marketer, think again. In the next six months, Lotus will release two databases

DREAD APRIL 1 VIRUS DETECTED AT MICROTIMES

Amused readers have brought it to our attention that in last month's news column we described the Macintosh IIfx as having an 80386 CPU. This would undoubtedly come as something of a shock to Apple, which has been using Motorola chips since day one and uses the 68030 in the IIfx. Intel, which makes the 80386, would probably find this alternative explanation for the chip shortage interesting.

We're not quite sure how this assertion got past two editors who should have known better. We're taking our brains to the virus clinic. We hope this unplanned entertainment has not caused problems for anybody.

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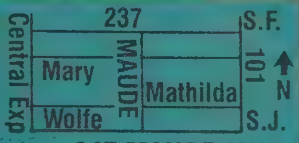

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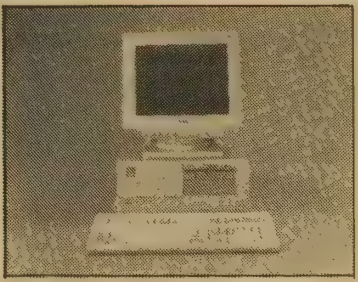

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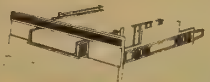

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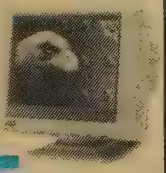

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Prices Good Through May 30, 1990, But Are Subject To Change Without Notice containing detailed information on 80 million households and 7.5 million companies. The data will be searchable on a myriad of criteria, allowing the searcher to target potential customers to a very fine degree.

The data will be available at a lower-than-ever price, making it a boon for small-and medium-sized businesses; it also means that the "targets" listed in the databases are assured of receiving hundreds more solicitations.

The new databases, called Lotus MarketPlace, put a huge amount of information on a CD-ROM. The packages also contain an easy-to-use Macintosh front-end that makes it simple for the user to pare down the list to a desired size.

Apple is ecstatic that Lotus chose the Mac as the platform for MarketPlace, since it will be a good reason for even more small businesses to buy a Mac.

Each database will cost $695 for up to five thousand names generated; you can get more names by calling Lotus and paying for them in groups at a rate of $80 per one thousand additional names. Lotus will keep open accounts for all users so that they can easily register for more names at any time.

A huge advantage to the way that Lotus set up the program is that you can navigate through the data freely, checking how many names match your criteria, without spending any money. If you have a target for the size of audience, you can experiment with different sets of criteria without incurring any costs. All that is required is a Mac and a CD-ROM player.

Apple is ecstatic that Lotus chose the Mac as the platform for MarketPlace, since it will be a good reason for even more small businesses to buy a Mac. It will also give users another good reason to buy a CD-ROM player. The names can be exported to a file or sent directly to a printer.

By the time that the program is available, Lotus expects that many Macintosh software vendors will have come out with software that lets their programs manage the names and addresses generated by the lists.

SOFTWARE PUBLISHERS ASSOCIATION GIVES ANNUAL AWARDS

In a slightly flamboyant gesture, the SPA announced its annual software awards one day after the Oscars. This year's winners represented a move towards actual excellence, not just programs that had generated lots of publicity.

SimCity, the city simulation from Maxis, won the most awards (three) for best simulation, best entertainment, and best curricular program. SimCity has been widely praised both for its ingenuity in getting users to think about city planning and for its fun approach to complicated simulations.

Eye Relief, the new large-type word processor from SkiSoft, got two awards for best word/text business application and best program for special needs.

The winners:

BUSINESS SOFTWARE AWARDS

Best New Business Software Product
Lotus Notes (Lotus Development Corp.)

Best Vertical Market Application
Personnel Policy Expert (Knowledge Point)

Best Business Application: Word or Text Orientation
EYE RELIEF Large-type Word Processor (MS-DOS) (SkiSoft Publishing Corp.)

Best Business Application: Numeric or Data Orientation
Quattro Pro (MS-DOS) (Borland International, Inc.)

Best Programming Language or Tool
THINK C (Symantec Corp.)

Best Utility/Communications Product
Lotus Magellan (Lotus Development Corp.)

CONSUMER SOFTWARE AWARDS

Best Fantasy Role-playing/Adventure Program
Space Quest III: The Pirates of Pestulon (Sierra On-Line, Inc.)

Best Sports Program
Hardball II (Accolade)

Best Simulation Program
SimCity, The City Simulator (Maxis)

Best Strategy Program
Populous (Electronic Arts)

Best Action/Arcade Program
WELLTRIS (Spectrum HoloByte)

Best Entertainment Program
SimCity, The City Simulator (Maxis)

Best Personal Productivity/Creativity Program
Quicken 3.0 (MS-DOS) (Intuit)

LIFETIME ACHIEVEMENT AWARDS

Alan Kay, Apple Fellow
Steve Jobs, NeXT

EDUCATION SOFTWARE AWARDS

Best Early Education Program
The Playroom (Brøderbund Software, Inc.)

Best Elementary Education Program
Math Shop Jr. (Scholastic Software)

Best Secondary Education Program
Math Blaster Mystery (Davidson & Associates, Inc.)

Best Home Learning Program
Where in Time Is Carmen Sandiego (Brøderbund Software, Inc.)

Best School Productivity/Creativity Program
Compton's Multimedia Encyclopedia (Networked) (Britannica Software, Inc.)

Best Special Needs Program
EYE RELIEF Large-type Word Processor (MS-DOS) (SkiSoft Publishing Corp.)

Best Curricular Program
SimCity, The City Simulator (Maxis)

GENERAL AWARDS

Best Technical Achievement
RealSound (MS-DOS) (Access Software)

Best Design Achievement
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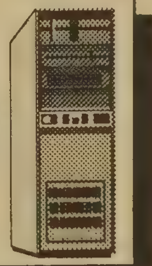

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If MarketPlace causes an increase in junk mail, the world will lose more forests. One can only hope that it is primarily used to help retarget companies' mailing strategies or to switch away from paper-based ads towards electronic communication.

UNIX TALKS BREAK DOWN

The Open Software Foundation and UNIX International broke off merger talks aimed at uniting the two warring factions of UNIX manufacturers. The two groups accused each other of being intransigent on basic issues such as methods for inter-process communication and multiprocessing.

Users had hoped that the two groups could come to an agreement so that there would only be one major variant of UNIX in the future. With the discussions halted, it is unlikely that any agreement could come in the next few years, meaning that the two groups will probably release the first versions of their UNIXes late this year or early next year. With those versions out, it will be even more difficult for the two groups to agree on anything, since their users will become that much more entrenched.

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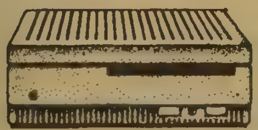

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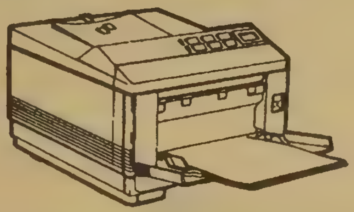

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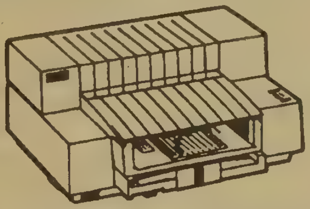

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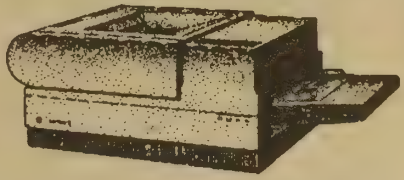

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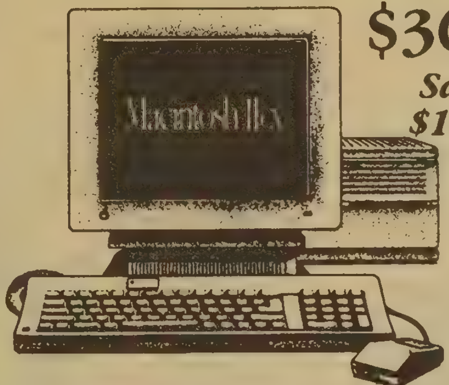

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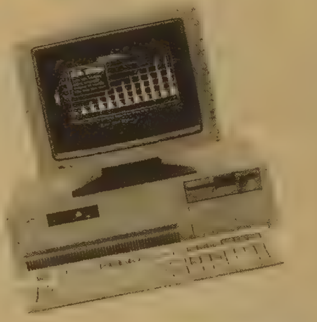

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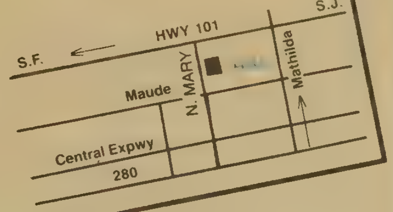

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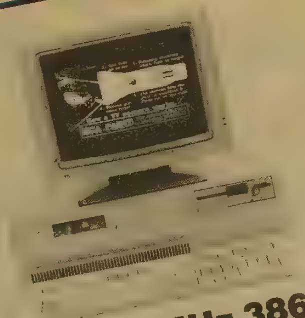

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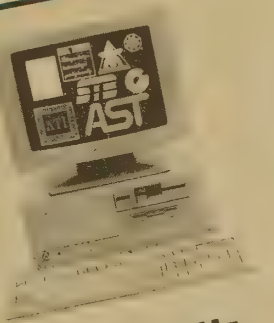

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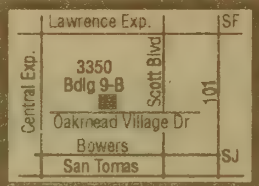

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plained loudly that the deal was unfair and structured against them. The companies are worried that the deal could be voted down, although both companies have large numbers of institutional investors who could help push it through. The vote is expected in July.

In the weeks before the merger announcement, Novell began selling off its less profitable hardware units in a move to strengthen itself as a software company. It sold the Macintosh hardware technology it acquired when it bought Kinetics to many vendors, including Farallon and Shiva. It is expected that it will sell other hardware subsidiaries, or at least their technology rights, in the coming months.

> In the weeks before the merger announcement, Novell began selling off its less profitable hardware units in a move to strengthen itself as a software company.

Lotus also recently relieved itself of its few hardware units so that it could concentrate on software and software delivery systems.

The two companies emphasized that the merger would save money on marketing, since their customer bases overlap in many areas. The combined marketing power would extend to dealer services, an area in which Lotus has a much better reputation.

With both companies stressing software, they would also be able to attract more consultants to support their products.

Farallon Starts Licensing PhoneNet Patent

The US Patent Office issued Farallon, Inc. a patent for the main method used by the PhoneNet connector for passing LocalTalk data over twisted-pair telephone wire.

Dozens of small manufacturers have created cheap clones of the PhoneNet connector, and Farallon has sent letters to most of them asking them to consider licensing the

386-33 MHz 64K CACHE

LANDMARK = 56
- 1 MB RAM EXPANDABLE TO 8 MB
- SOCKET 80387 & AMI BIOS
- 2X32 BIT, 5X16 BIT, 1X8 BIT SLOTS
- REAL TIME CLOCK W/ BATTERY BACKUP
- 1.2 MB FLOPPY DRIVE
- 1:1 ESDI 2FL/2HD CONTROLLER W/CACHE
- 2 SERIAL, 1 PARALLEL, 1 GAME PORT
- 230W P/W CASE HOLDS 5 DRIVES
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486-25 MHz
$3899

386-33

HD	NO MONITOR	MONO	VGA	SUPER VGA
80 MB	2144	2243	2604	2789
150 MB	2739	2838	3199	3384
200 MB	2939	3038	3387	3584

386-25 MHz 64K CACHE

LANDMARK = 43
- 1 MB RAM EXPANDABLE TO 8 MB
- SOCKET 80387 & AMI BIOS
- 1X32 BIT, 5X16 BIT, 2X8 BIT SLOTS
- REAL TIME CLOCK W/ BATTERY BACKUP
- 1.2 MB FLOPPY DRIVE
- 2 SERIAL, 1 PARALLEL, 1 GAME PORT
- 230W P/W CASE HOLDS FIVE DRIVES
- 101 ENHANCED KEYBOARD

$1299

386-25 W/64K CACHE

HD	NO MONITOR	MONO	VGA	SUPER VGA
40 MB	1589	1688	2088	2234
65 MB	1844	1943	2284	2489
80 MB	2239	2338	2679	2884

386-25 MHz

LANDMARK = 33
- 1 MB EXPANDABLE TO 8 MB
- SOCKET 80387 & AMI BIOS
- 1X32 BIT, 5X16 BIT, 2X8 BIT SLOTS
- REAL TIME CLOCK W/ BATTERY BACKUP
- 1.2 MB FLOPPY DRIVE
- 1:1 2FL/2HD CONTROLLER
- 2 SERIAL, 1 PARALLEL, 1 GAME PORT
- 200W P/W CASE HOLDS FIVE DRIVES
- 101 ENHANCED KEYBOARD

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386-25

HD	NO MONITOR	MONO	VGA	SUPER VGA
40 MB	1358	1457	1758	1983
65 MB	1488	1587	1888	2113
80 MB	1584	1683	1984	2209

386-20 MHz

LANDMARK = 25
- 1 MB RAM EXPANDABLE TO 8 MB
- SOCKET 80387 & AMI BIOS
- 1X32 BIT, 5X16 BIT, 2X8 BIT SLOTS
- REAL TIME CLOCK W/ BATTERY BACKUP
- 1.2 MB FLOPPY DRIVE
- 2FL/2HD CONTROLLER
- SERIAL/PARALLEL, GAME PORT
- 200W P/W CASE HOLDS FIVE DRIVES
- 101 ENHANCED KEYBOARD

$929

386-20

HD	NO MONITOR	MONO	VGA	SUPER VGA
40 MB	1195	1289	1610	1815
65 MB	1255	1354	1675	1880
80 MB	1474	1573	1894	2099

386-16 SX

LANDMARK = 21
- 1 MB EXPANDABLE TO 4 MB
- SOCKET 80387 & AMI BIOS
- 6X16 BIT, 2X8 BIT SLOTS
- REAL TIME CLOCK W/ BATTERY BACKUP
- 1.2 MB FLOPPY DRIVE
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- SERIAL/ PARALLEL GAME PORT
- 200W P/W CASE HOLDS FIVE DRIVES
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386-16 SX

HD	NO MONITOR	MONO	VGA	SUPER VGA
40 MB	929	1028	1314	1559
65 MB	995	1094	1399	1624
80 MB	1194	1289	1599	1819

286-12 MHz

LANDMARK = 16
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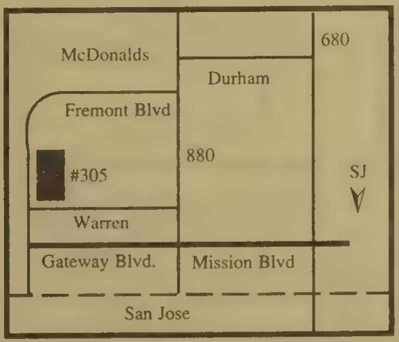

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technology that they copied. Instead of sending the usual nasty have-your-lawyer-talk-to-my-lawyer letter, Pat O'Haren, Farallon's OEM sales manager, simply asked that each company contact Farallon for further negotiations. Almost everybody responded, and Farallon says that it is likely that the majority will agree to terms without having to get into any legal disputes.

MACWORLD EXPO ROUNDUP

The most common complaint among the folks who had been in the Macintosh industry since 1984 was that there was a much higher proportion of people wearing suits at this year's Macworld Expo than last year. The most common praise that exhibitors had this year was that there was a much higher proportion of people wearing suits.

This year's show had almost no new products, just feature-laden upgrades. As sad as that sounds, it seems to be exactly what the majority of attendees wanted. The quest for the familiar goes beyond the Mac's look and feel, all the way to the heart of how the market moves.

The most crowded booths were those of major manufacturers like Aldus, Adobe, and Microsoft. In previous years, nifty utilities and hardware from tiny companies garnered big crowds and lots of talk. This year, all the "action" (if you can call it that) was in the big booths. People wanted to know what new features for the programs they already had were coming down the line. The few new products were mostly me-too programs with slight rearrangements of the feature lists.

A few large manufacturers were demonstrating applications that showed off many of the Mac's features that users have come to know and love. For example, Odesta was showing its Document Management System, a highly integrated system for tracking documents in companies such as magazine publishers. ODMS shows that the Mac interface is still an excellent vehicle for integrated applications in which users are not computer-literate.

Of course, large manufacturers are happy that customers are now content with featurism. Companies like Microsoft can get quite rich off of upgrades, many of which cost more than $100 apiece. The few large companies that have cheap upgrades (such as Central Point Software) may lose some money, but they too do not need to worry about coming up with too many new ideas in order to keep revenue coming in. ■

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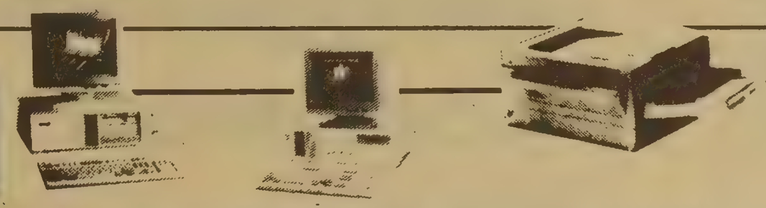

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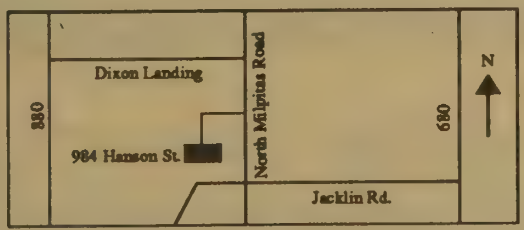

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Computers Can Remedy Computer-Aided Gerrymandering

BY JIM WARREN

Politicians have increasingly used computers in redrawing voting district boundaries, constitutionally required after each census. The result has become outrageous.

It has proven that our machines are double-edged swords, sometimes cynically used to slash wounds deep into the body politic and scar the democratic process. It's a "hack" that is a most serious, unpunished—and well-rewarded—computer crime.

Computer-aided gerrymandering has become an art form, creating crazy-quilt boundaries, obscene by any standard of fair representation; psychedelic patterns, pleasing only to power addicts.

THE PROBLEM:

POLITICIANS USING COMPUTERS

As usual, computers are not the problem; it's the politicians using them. Those redrawing districts are usually the same people most impacted by them—elected legislators and party hacks.

REALIZABLE FANTASIES

Specifically, the ruling party typically directs redistricting. Across the nation, both major parties show equal ability to abuse their redistricting authority.

1. Protect Majority-Party Incumbents. Their first goal is to construct "safe" districts for favored incumbents.

For this, *they must know the legal residence of these favored few.*

2. Protect The Majority Party. Their second goal is to maximize seats for the reigning party; minimizing seats that can be won by the party not controlling the redistricting.

For this, *they need party registration and party-line voting patterns for each precinct.*

Abuse is aided by redrawing districts in secret, with detail work done by staff who are party loyalists.

SOLUTION, PART 1:

TAKE REDISTRICTING AWAY FROM PROFESSIONAL POLITICIANS

On June 5th, Californians can pass Proposition 119—the "Independent Citizens' Redistricting Initiative," originated by Tom Huening. Supporters range from David Packard and the League of Women Voters to the Center for Public Interest Law and the Paul Gann group. It takes redistricting away from legislators, placing it in the hands of a carefully-defined citizens' Commission, appointed by a panel of retired Appellate Court Judges (not that judges are apolitical, but it's a helluva lot better than elected incumbents redrawing their own districts).

The Commission will evaluate and adopt a redistricting plan from among those submitted by any citizen desiring to do so, conducting all business in public.

[*Beware!* A competing initiative, Prop. 118, keeps redistricting under legislative control, but changes the voting requirements for adoption of new districts. Its passage would essentially guarantee backroom deals designed only to protect incumbents.]

SOLUTION, PART 2:

REMOVE ACCESS TO UNNEEDED INFORMATION

If Prop. 119 passes, let *us* submit a computerized redistricting plan that *provably* excludes use of the data essential for gerrymandering:

1. Exclude access to legal addresses of incumbents.
2. Exclude access to precinct voting patterns.
3. Exclude use of party registration data, except as required by law.

And, when required, publicly define how such data was used.

SOLUTION, PART 3:

LET COMPUTERS DO THE DRAWING

Any redistricting done by humans is susceptible to gerrymandering —with or without computer assistance. (In 1812, the practice was named after Gov. Elbridge Gerry's redistricting of Massachusetts.)

When submitting the computer-generated redistricting plan, *submit the computer's redistricting program and input data, so everyone may verify their neutrality.* With Commission permission, actually

Computer-aided gerrymandering has become an art form, creating crazy-quilt boundaries, obscene by any standard of fair representation; psychedelic patterns, pleasing only to power addicts.

Copyright © 1990 by Jim Warren. All rights reserved. Jim Warren founded InfoWorld, *the DataCast proposal for broadcast-based paperless electronic newspapers, Video Initiative, Wireless Digital, Initiative, Inc. and the nation's largest public microcomputer convention. He was founding host of PBS television's "Computer Chronicles" series, founding editor of* Dr. Dobb's Journal, *founding President of the Microcomputer Industry Trade Association and has chaired various computer professionals' organizations. He holds graduate degrees in computing (Stanford), medical information science (UC Medical Center), and mathematics.*

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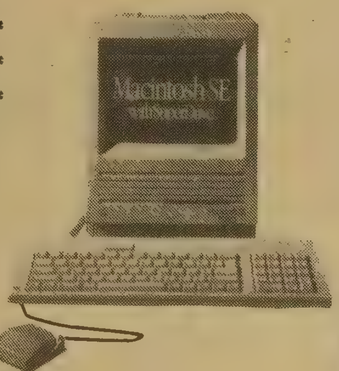

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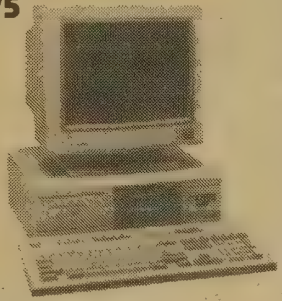

This machine with its high speed, high powered 386 micro-processor. Plus the architecture and memory to run a wide range of advanced software applications.

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Compaq Deskpro 386s 20 MB HD	2644
Compaq Deskpro 386s 40 MB HD	2923
AST Bravo 1 Floppy	867

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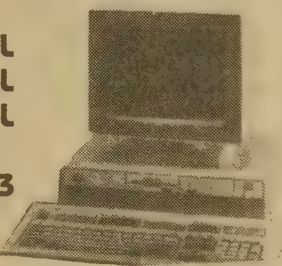

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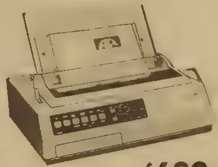

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Parallel/Serial Ports
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386/25 MHz Basic System

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Supports MS-DOS, OS/2, XENIX, UNIX, Novell, Windows/386,
Desqview 386, and all 386-Specific Software
Landmark: 33.6 MHz/Norton: 29.7x (386/25 w/interleave)

386/33C MHz Basic System

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80386-based 0 Wait State Motherboard
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Power Meter: 7.5 MIPS/Landmark: 58.0 MHz/Norton: 45.9x

386/25C MHz Basic System

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Desqview 386, and all 386-Specific Software
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286/12 Mhz Basic System

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5-16 Bit & 3-8 Bit Expansion Slots
Enhanced 101-key Keyboard
Supports MS-DOS, XENIX, Novell, etc.
Landmark: 16.0 MHz/Norton: 15.3x

386SX/16 MHz Basic System

$799

80386SX-based 0 Wait State Motherboard
AMI BIOS w/CMOS Setup Built-in
Intel 16-bit 80386SX CPU
1 MB RAM Standard (Expandable to 8 MB)
Page interleaved memory controller
Choice of Teac 5.25" 1.2 MB or 3.5" 1.44 MB Floppy Drive
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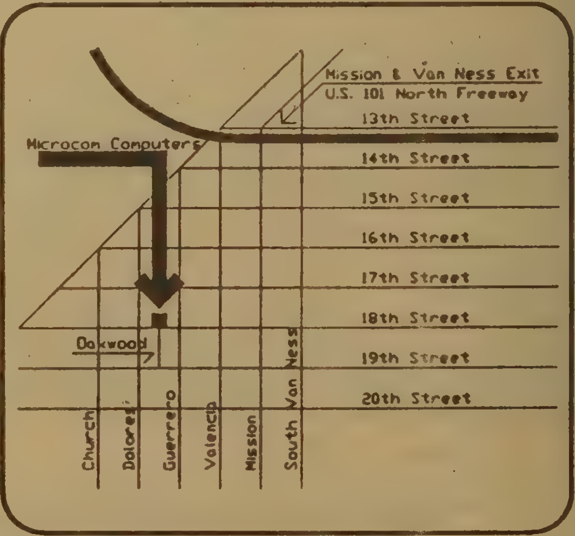

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Computer Systems Price Matrix	No Monitor/Card Included	Mono (12") 720 x 350 1 Color	Mono (14") 720 x 350 1 Color	Mono VGA 640 x 480 64 Shades	VGA 640 x 480 256 Colors	Super VGA 800 x 600 256 Colors	HIRES 1024 x 768 256 Colors
286/12 (512 KB)							
Basic System	$479	$579	$629	$704	$979	$1,079	$1,229
w/20 MB Hard Disk (65 ms/MFM)	$679	$779	$829	$904	$1,179	$1,279	$1,429
w/42 MB Hard Disk (28 ms/MFM)	$799	$899	$949	$1,024	$1,299	$1,399	$1,549
w/80 MB Hard Disk (28 ms/MFM)	$1,049	$1,149	$1,199	$1,274	$1,549	$1,649	$1,799
386/16SX (1 MB)							
Basic System	$799	$899	$949	$1,024	$1,299	$1,399	$1,549
w/42 MB Hard Disk (28 ms/MFM)	$1,119	$1,219	$1,269	$1,344	$1,619	$1,719	$1,869
w/65 MB Hard Disk (28 ms/RLL)	$1,199	$1,299	$1,349	$1,424	$1,699	$1,799	$1,949
w/80 MB Hard Disk (28 ms/MFM)	$1,369	$1,469	$1,519	$1,594	$1,869	$1,969	$2,119
386/25 (1 MB)							
Basic System	$999	$1,099	$1,149	$1,224	$1,499	$1,599	$1,749
w/42 MB Hard Disk (28 ms/MFM)	$1,319	$1,419	$1,469	$1,544	$1,819	$1,919	$2,069
w/65 MB Hard Disk (28 ms/RLL)	$1,399	$1,499	$1,549	$1,624	$1,899	$1,999	$2,149
w/80 MB Hard Disk (28 ms/MFM)	$1,569	$1,669	$1,719	$1,794	$2,069	$2,169	$2,319
w/100 MB Hard Disk (18 ms/ESDI)	$2,099	$2,199	$2,249	$2,324	$2,599	$2,699	$2,849
w/150 MB Hard Disk (16.5 ms/ESDI)	$2,299	$2,399	$2,449	$2,524	$2,799	$2,899	$3,049
w/340 MB Hard Disk (14.5 ms/ESDI)	$2,999	$3,099	$3,149	$3,224	$3,499	$3,599	$3,749
w/650 MB Hard Disk (16 ms/ESDI)	$3,799	$3,899	$3,949	$4,024	$4,299	$4,399	$4,549
386/25C (1 MB)							
Basic System	$1,499	$1,599	$1,649	$1,724	$1,999	$2,099	$2,249
w/42 MB Hard Disk (28 ms/MFM)	$1,819	$1,919	$1,969	$2,044	$2,319	$2,419	$2,569
w/65 MB Hard Disk (28 ms/RLL)	$1,899	$1,999	$2,049	$2,124	$2,399	$2,499	$2,649
w/80 MB Hard Disk (28 ms/MFM)	$2,069	$2,169	$2,219	$2,294	$2,569	$2,669	$2,819
w/100 MB Hard Disk (18 ms/ESDI)	$2,599	$2,699	$2,749	$2,824	$3,099	$3,199	$3,349
w/150 MB Hard Disk (16.5 ms/ESDI)	$2,799	$2,899	$2,949	$3,024	$3,299	$3,399	$3,549
w/340 MB Hard Disk (14.5 ms/ESDI)	$3,499	$3,599	$3,649	$3,724	$3,999	$4,099	$4,249
w/650 MB Hard Disk (16 ms/ESDI)	$4,299	$4,399	$4,449	$4,524	$4,799	$4,899	$5,049
386/33C (1 MB)							
Basic System	$1,799	$1,899	$1,949	$2,024	$2,299	$2,399	$2,549
w/42 MB Hard Disk (28 ms/MFM)	$2,119	$2,219	$2,269	$2,344	$2,619	$2,719	$2,869
w/65 MB Hard Disk (28 ms/RLL)	$2,199	$2,299	$2,349	$2,424	$2,699	$2,799	$2,949
w/80 MB Hard Disk (28 ms/MFM)	$2,369	$2,469	$2,519	$2,594	$2,869	$2,969	$3,119
w/100 MB Hard Disk (18 ms/ESDI)	$2,899	$2,999	$3,049	$3,124	$3,399	$3,499	$3,649
w/150 MB Hard Disk (16.5 ms/ESDI)	$3,099	$3,199	$3,249	$3,324	$3,599	$3,699	$3,849
w/340 MB Hard Disk (14.5 ms/ESDI)	$3,799	$3,899	$3,949	$4,024	$4,299	$4,399	$4,549
w/650 MB Hard Disk (16 ms/ESDI)	$4,599	$4,699	$4,749	$4,824	$5,099	$5,199	$5,349

Note: Maximum resolution & colors reflected in video specifications. All Monitors measure 14" diagonally unless otherwise noted. Hard Disk sizes are approx.

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run the program under their oversight as part of the public presentation of the plan, with their staff and all interested observers able to verify the input-data and program.

RELATED ASIDE: COMPUTER-TRUST IN THE '60S

Some years ago, there was a major experiment in computer-aided instruction in East Palo Alto schools, a minority community.

Project evaluators discovered that the kids often preferred computer instruction over human teachers, trusting the computer to be fair and unbiased, regardless of how well or poorly they did—and regardless of whether their human teachers were minorities.

SHARE WHERE? SHARE HERE!

Send suggestions to Jim Warren, Realizable Fantasies, 345 Swett Road, Woodside, CA 94062. Published proposals will be attributed to their authors unless anonymity is requested.

HELP DESIGN THE REDISTRICTING ALGORITHM

Assuming Prop. 119 passes—and Californians seem sufficiently fed up with previous abuses to make passage likely—a redistricting computer program has some interesting problems. Given data about census blocks and precincts, it must create voting districts with approximately equal populations, that are compact, respect city and county and geographic boundaries, avoid minority imbalance, and encourage competition. (See Prop. 119's "Standards for Plans" in your voter pamphlet; talk to your Registrar of Voters and County Clerk regarding available data.)

Read the Proposition; talk to your Registrar and County Clerk. Then, *forward your suggestions for the ideal algorithm.*

UNRELATED (NONPOLITICAL) NEAT STUFF

I've recently stumbled across a La Jolla mob named Z Microsystems (619/459-1928). They're introducing gadgets worth gettin':

Cheap Color PostScript: The H-P PaintJet's a cheap color printer (about $1,000, street price), but doesn't run PostScript. PostScript color printers have been hyper-highpriced. Z has a PostScript-compatible interpreter driving the PaintJet, yielding an affordable color spread (I trust its compatibility; I know the wizard who wrote it).

250Mb Removable 3.5" Disks: Need removable disks and find 45Mb and 60Mb alternatives just too tiny or too slow? Z's offering 3.5" Hitachi drives with fast, 250Mb, briefcase-sized, removable cartridges (not cheap) and SCSI interfaces.

Furthermore, they have a key—the padlock kind—that locks the disk in the drive, and locks data access to read/write, read-only or "none." (Most Winchesters are hard to write-lock—sez I, after accidentally scrubbing my backup winnie.)

Z-folks are technically knowledgeable and responsive. Am I promoting 'em? You betcha! I support them because I believe they support their customers. Either we support the good guys, or the bad guys win at our expense. (Z's been focusing on the Sun workstation market, but if microfolks beat up on 'em, they're likely to serve people-priced computing.) ■

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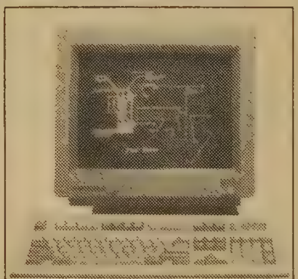

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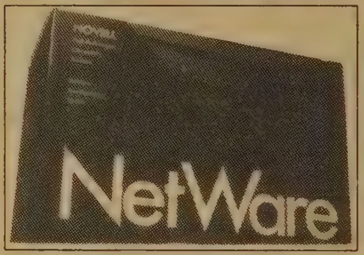

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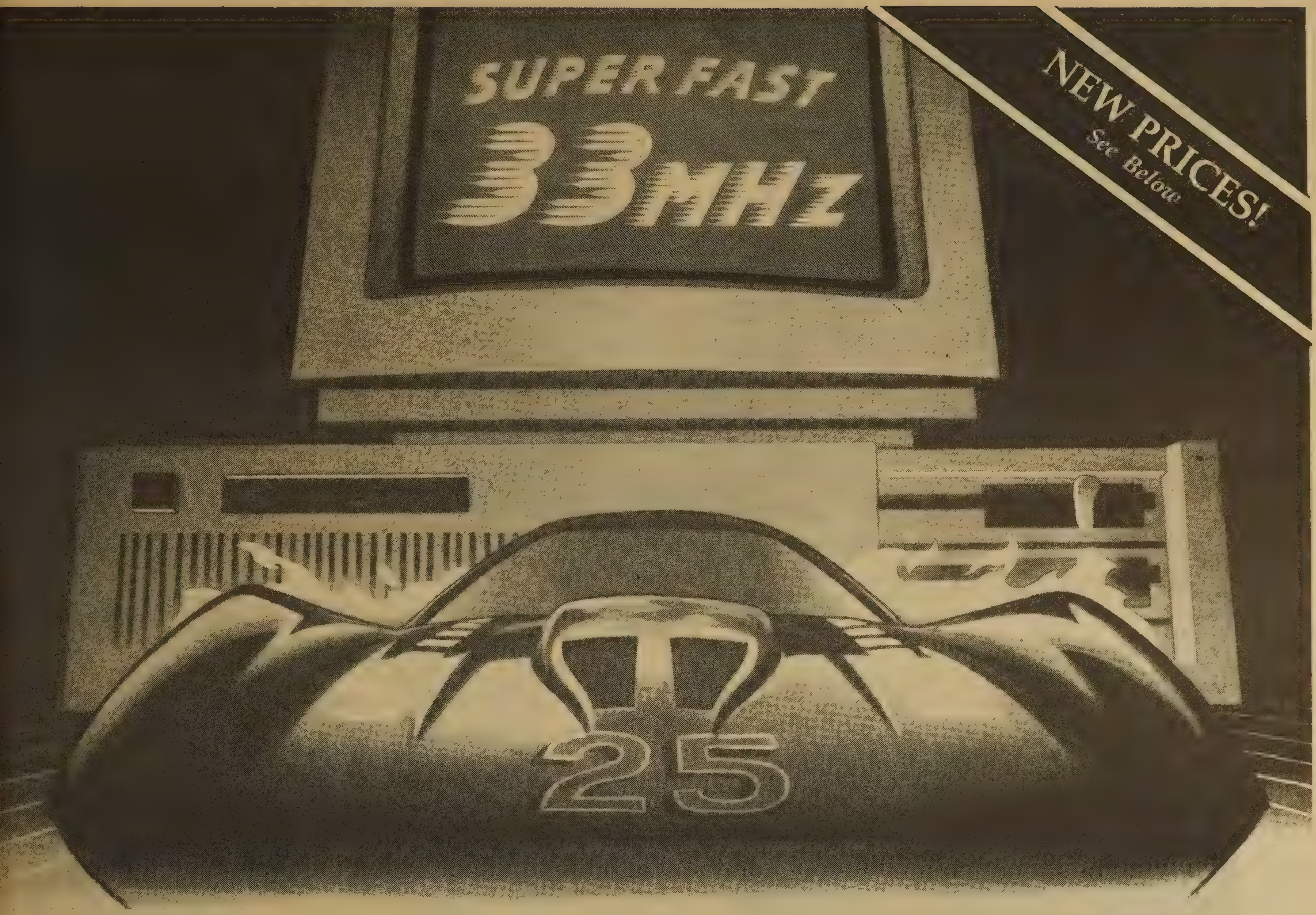

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- 385-25MHz CACHE controller
- 4MB RAM memory
- 1.2MB Teac floppy disk drive
- 80MB Fast hard drive 20(ms)
- Serial/Parallel port
- Enhanced keyboard
- 38MHz performance

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- Enhanced keyboard
- 25MHz performance

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- S VGA SYSTEM: $2095

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VGA SYSTEM: $1495

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BUSINESS SOLUTIONS

Computing On The Go

NEC's First Color Portable Plus Some Handy Gadgets

BY ED KAHN

It is reported that the portable computing business is growing seven times faster than the rest of the industry. More and more, portables and laptops are competing directly with desktop systems.

As time moves on, the distinction between desktop and laptop products becomes more and more blurred. Software, for instance, is suited to both market segments, although there are specialized products designed specifically for laptop machines, while other packages are more suited for desktop units. Nevertheless, in order to adequately cover the laptop field, it is necessary to point out products that are useful for anyone, regardless of what kind of computer they are using.

A Continuing Series On Portable Computing

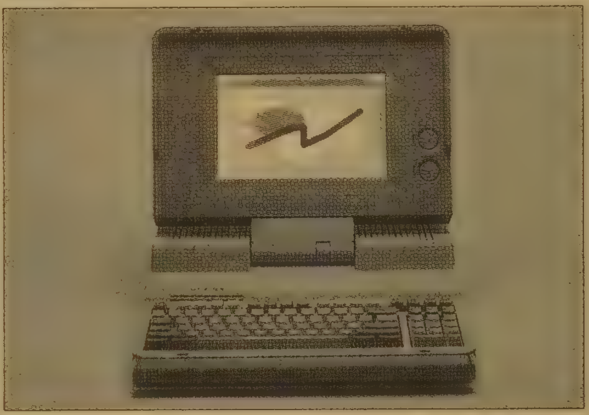
USEFUL GADGETS FOR THE PORTABLE COMPUTER USER

Laptops are now using 3.5" floppy disks almost exclusively, while some desktop units still cling to the older 5.25" floppies. Nevertheless, it is clear that in time the smaller disks will dominate.

A clever product recently caught my attention. Double Disk ($39.95) is a gadget designed to convert single density 720K floppies to the double density 1.44Mb disks. Some reports say that the double density 1.44Mb desks are different inside than the standard 720K models; the Double Disk folks respond that if you ever have any trouble with a disk converted with their punch, they will replace it with a name-brand double density disk. Indeed, I have been using these modified disks for some time now, and have had absolutely no trouble.

This is a product you are unlikely to find in any computer store. Apparently these guys developed the product and then began marketing it through magazine advertising.

Another product that is pretty amazing is the Smart Label Printer ($249.95) from Seiko. Seiko is best known for watches and conventional printers, but this printer is manufactured in the United States—apparently a first for them. What sets the label printer apart from conventional printers is that it prints *only* labels. The printer comes with sophisticated memory resident software that will capture an address that you have typed into a letter. Then it will print out the label at the same time as the letter is printing on the main printer. This is one of the easiest ways I have seen to address envelopes.



The software also allows you to enter information to be printed directly into a window or capture information other than addresses from a document. Thus you can use the label printer to make labels for video tapes, canning jars, file cabinets, or anything else that has previously been too much trouble for a conventional printer. The unit is about the size of a Rolodex, so it can go anywhere and fit into any system. It connects to the computer through a serial port.

The printer comes with a roll of 130 labels. Additional labels cost

Just as in the early days of color TV, when friends and neighbors gathered around to see the new marvel, the NEC ProSpeed CSX draws everybody's attention.

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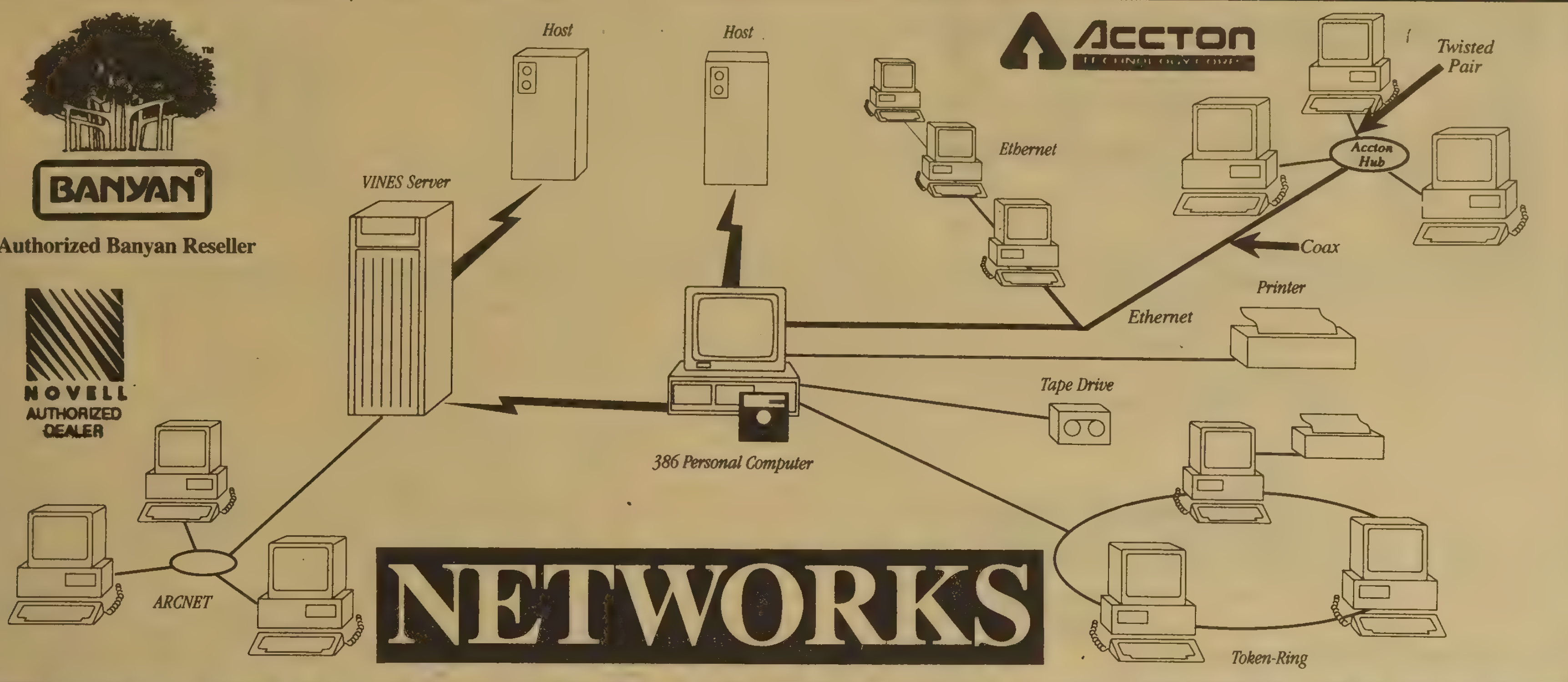

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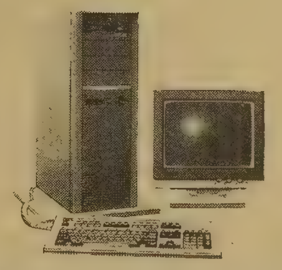

With ten expansion slots, six half-height drive bays, up to 36 MB of RAM and a heavy duty 300 watt power supply, it can handle your most demanding hardware configurations.

AST Premium 486/25E An i486 Computer That Shows What EISA Can Do

The system combines the best of available technology, including EISA (Extended Industry Standard Architecture) and Cupid-32, AST's own technology for cost-effective upgradeability.

AST 286 Computers Have Always Looked Good Against The Competition

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AST Bravo/386SX 386SX Power Has Never Been So Affordable.

For powerful standalone computing, or for use as a network node, you can't find a better value in an entry-level 386-based computer than the AST/386SX

AST Premium 386SX/16

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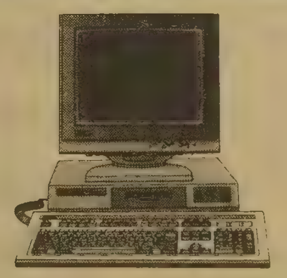

Besides being one of the best performers among the systems tested, the AST Premium 386SX/16 has the advantage of being upgradeable to a full-scale 33 MHz system now, and to a 25 MHz 386 or 486 in the near future. This is a system that will be hard to outgrow.

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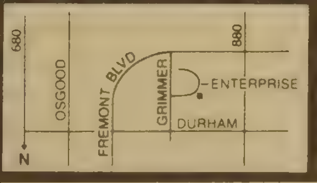

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As laptops and portables grow closer and closer together, the one thing that absolutely separates them is the presence of color on laptops; with the release of NEC's new color computer, that difference too may soon disappear.

COMPUTER OF THE MONTH: THE NEC PROSPEED CSX

This computer is the beginning of a revolution that will undoubtedly come to dominate the laptop field. In time, most portables will have color displays.

That day, however, is a long way off. For the moment, we can regard this as an historic first. Just as in the early days of color TV, when friends and neighbors gathered around to see the new marvel, the NEC draws everybody's attention. The screen is adequate in size, but the color is not really comparable to a standard color monitor. This product still leaves room for lots of improvement.

The NEC ProSpeed CSX ($8,499) is certainly not going to win any awards for its petite size, weighing in at 18.5 pounds and with overall dimensions of 15" x 14.4" x 4.1". But it is a fully equipped 80386SX computer running at a brisk 16 MHz. It comes with either a 42Mb or a whopping 100Mb hard drive, in addition to a double density 1.44Mb floppy drive.

NEC has provided a generous screen size of 8.3" x 5.2". This represents the first commercially produced color flat panel display technology found in a laptop, and offers VGA resolution. If you are using the computer in a setting where portability is not a major consideration, you are able to attach a VGA or multisync monitor and get a full array of well-defined colors rivaling any desktop computer because NEC has built a standard VGA card into the CSX.

I used this computer for a couple of weeks as my only computer and thoroughly enjoyed the color, but on some applications I had to search for the cursor. Somehow, the thin blinking line got lost in the sea of color. Contrast, even though you can adjust it, never really approaches that of a good desktop monitor. Even when I cranked the contrast up to its maximum, I still yearned for more.

The design of the computer allows you to tilt the screen back just a little past 90 degrees. I prefer to be able to bend the screen back all the way to horizontal so you can fit it under a stand when you are using an external monitor.

NEC computers always have good keyboards, and this model is no exception. The keys are just firm enough so you know you are hitting the keys and not just resting your fingers. When you strike a key, you get a good tactile response. In addition, there is an adequate sound each time a key is struck. My only real complaint is that NEC left off the dimples that should be on the **j** and **f** keys. This simple tactile hint saves lots of time and mistyped words for me.

In addition to the letter keys, there is a full numeric keypad that can serve for either numbers or for cursor control. I would prefer that there were also separate cursor control keys for those times when you are using the keypad for numbers. Portable keyboards, however, simply cannot offer the same convenience as full size keyboards—which you cannot attach to this computer.

Laptop does not always mean battery operated. There is no provision for battery operation of this computer. The power supply is built in, so there is no need to carry a separate part. The system is set up to run on either 115 or 230 volts.

In addition to the hard drive, there is a double density 1.44Mb floppy drive that also provides quiet service. NEC also offers two optional external 5.25" floppy drives. One is a high density drive (1.2Mb) and the other is a standard 360K model ($495 for either). The 1.2Mb drive can actually read 360K floppies as well. Each draws its power directly from the computer, so you are not burdened with having to make separate power connections for the external drives.

The standard configuration of the NEC ProSpeed CSX Color computer includes 2Mb of 80 nanosecond RAM. This can easily be expanded by the end user to 4Mb through the addition of a 2Mb memory card ($995) that plugs into the motherboard through a convenient access door. With four megabytes, which can be configured easily as expanded memory, you can handle huge programs that gobble up RAM. This means that CAD/CAM applications that rely on color will run like a breeze on this machine.

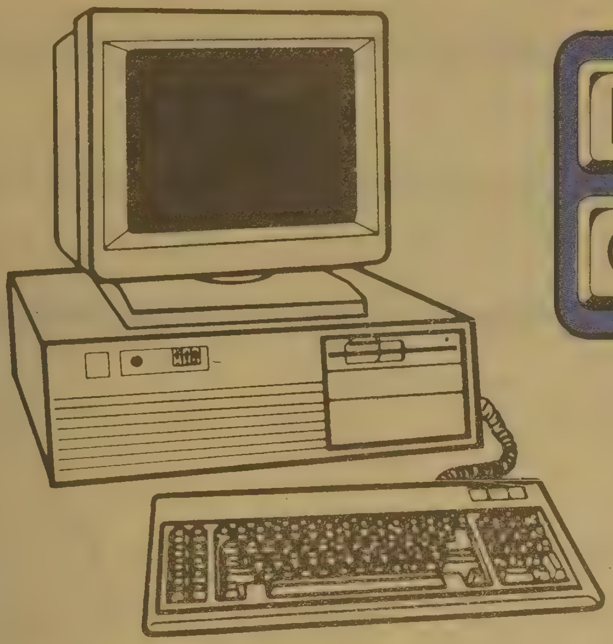
Four megabytes of memory allows lots of options. Many applications will dictate how this memory is to be utilized, but NEC does not provide any guidelines or software for the management of this memory. One of the advantages of a powerful 386 system is that you can easily configure the memory above the first megabyte as expanded or extended memory, depending upon your needs. It will be necessary to use one of the memory management products currently available if you intend to use some or all of this additional memory as expanded memory.

An optional 2400 baud modem ($495) installs easily into a provided expansion slot. The model we were using did not include this option, so I cannot report on its performance.

The computer comes with NEC's customized version of DOS 3.3, GWBASIC version 3.2 and Windows/386. In addition, there is a disk of hardware utilities that includes a setup program and several other useful programs that are seldom needed after initial configuration.

The NEC ProSpeed CSX is not designed as an economy model. It is a high-end unit offering color. If you need this feature, this is the only game in town. Fortunately, it is a good game. While we would not hesitate to recommend this computer to anyone who really needs color, I wouldn't recommend it if you don't specifically need color in a portable. ■

This machine represents the first commercially produced color flat panel display technology found in a laptop, and offers VGA resolution. You can attach a VGA or multisync monitor and get a full array of well-defined colors rivaling any desktop computer, because NEC has built a standard VGA card into the CSX.



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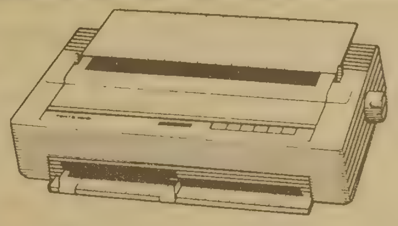

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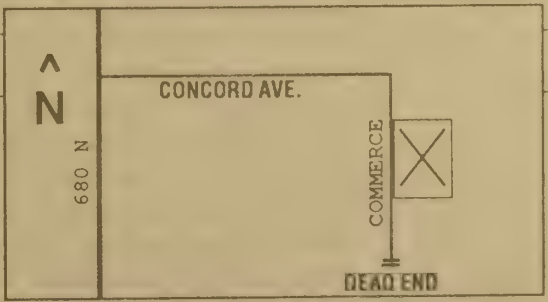

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Case Study:

Moving A Database From MS Works To FileMaker II

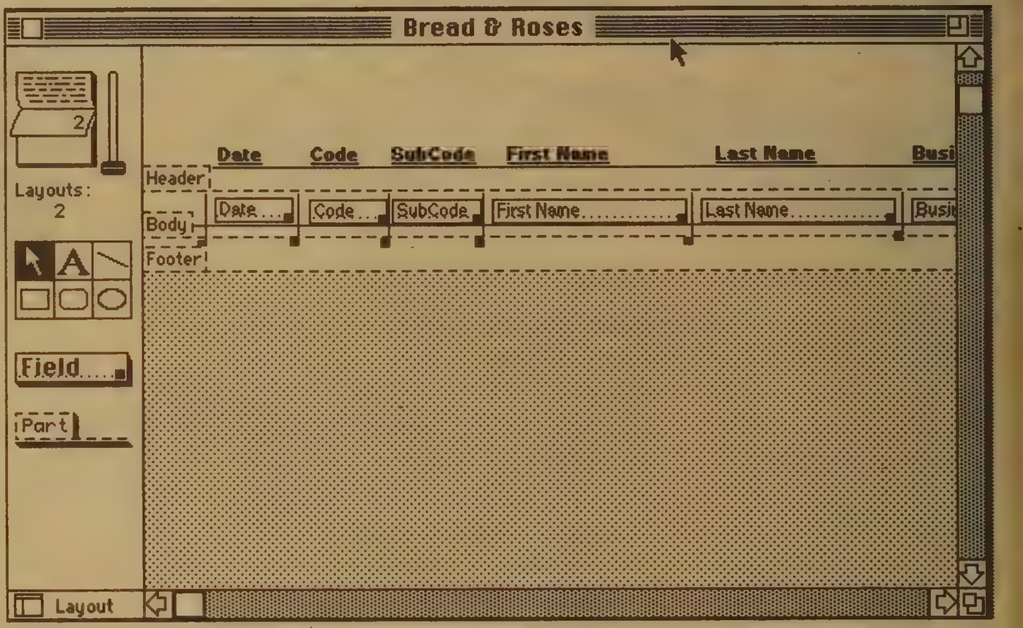
BY MARY EISENHART

Many offices begin their computerized operations with an integrated software package that gives them basic capabilities in several applications: word processor, spreadsheet, database, and sometimes accounting or telecommunications. As their operations grow, however, they often develop needs in a particular area that the all-in-one package can't handle.

The staff of Bread & Roses, a nonprofit organization in Mill Valley, recently found themselves in this situation. Bread & Roses is in the business of bringing free live entertainment to people in hospitals, prisons, and other institutions, and their database had to keep track of thousands of people—donors, performers, volunteers, etc. They had to schedule events and coordinate fundraising appeals, and do it with the resources of a small office—four 1Mb Macintoshes and one 20Mb hard disk. The main database had grown to nearly five thousand records which encompassed a wide range of information, and the staff was beginning to want to track information in greater detail than their stalwart all-in-one Microsoft Works could handle. Much of the organization's work was still done on paper, since it was based on text reports—tracking performance and donor histories, audience reception, and the like—and Works didn't lend itself to huge open-ended comments.

When I arrived on the scene as the dial-a-nerd from CompuMentor, Paula Monsef, the office manager, was gloomily examining a demo for a vertical-market software package which purported to solve all of a struggling nonprofit's problems for a mere $1,000 per module. It had a hideous screen reminiscent of early HyperCard displays. More importantly, it seemed to have decided what it was that nonprofits needed to do and locked its hapless customers into that vision—on closer examination, it became obvious that the program didn't let users define their own fields. I was incredulous. Paula looked in the documentation. Nope. If you wanted to define your own fields, you had to buy another $1,000 module.

Faced with this unattractive scenario, we sat down and assessed what Bread & Roses wanted their database to be able to do. They didn't want to lose any of the functionality they had with Works, but they wanted greater detail and flexibility. Furthermore, although their particular situation immediately suggests all kinds of wizzy possibilities for relational multimedia databases, they were much more interested in bringing music to institutionalized folks (i.e., doing their job) than in becoming a test site for Macintosh gurus. To the greatest extent possible, they wanted to be able to be wizard-independent and handle operations on their own, creating and classifying information as they needed it.

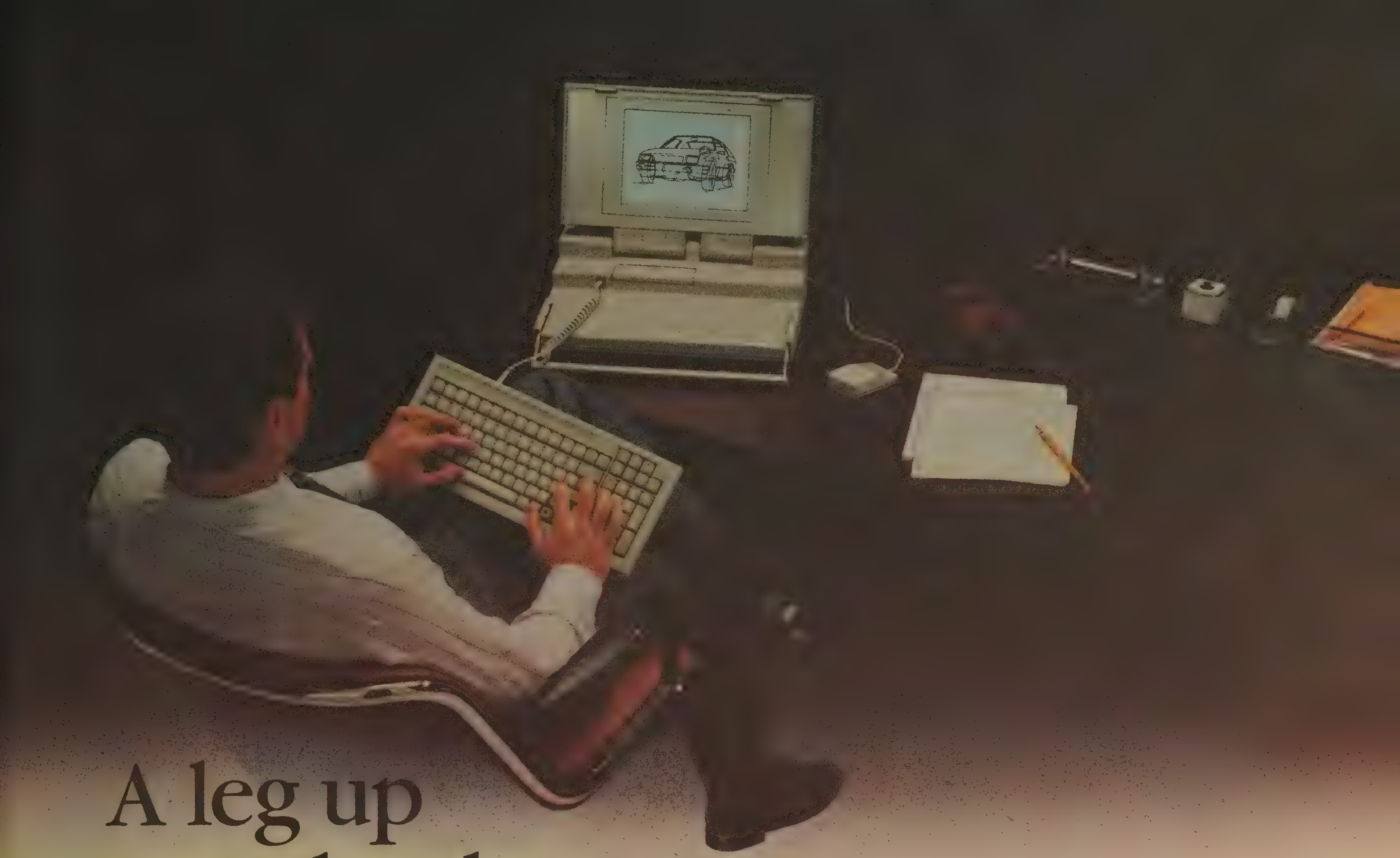


While FileMaker will create columnar layouts automatically, it requires you to draw grid lines by hand.

As it turned out, nothing the staff needed was beyond the capabilities of FileMaker II—from an elegance standpoint, it would undoubtedly be preferable to have something sophisticated and relational (and as the project evolves, FileMaker's Lookup capabilities will come into play), but for real-world considerations like hardware limitations and user expertise levels, FileMaker was a clear choice. (Since Claris—and Microsoft—also give out software quite generously to nonprofits through Apple's Community Affairs program, it was an even better bargain than usual, too.)

MOVING THE DATABASE

While I've spent a fair amount of time using FileMaker in various projects over the years and been pleasantly amazed at how easily it handles merges (one seven thousand-record



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STANDARD/MAX. MEMORY	1 MB/5 MB	640 K/3.6 M	1 MB/5 MB	1 MB/5 MB	1 MB/3 MB
MODEM (BUILT-IN)	YES	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
MOUSE—INCLUDED	YES	NO	NO	NO	NO
3.5″ DRIVES	1.44	1.44	1.44	1.44	1.44
HARD DISK DRIVES	40	40	40	40	40
RESOLUTION	640×480	640×480	640×480	640×400	640×480
BATTERY CAPABILITY	YES	YES	YES	YES	YES
PC COMPATIBLE SLOT	YES	OPTIONAL	OPTIONAL	OPTIONAL	OPTIONAL
KEYBOARD KEYS	101	83	82	86	79
LIST PRICE	**$4499**	**$5999**	**$5999**	**$5599**	**$5999**

Besides being powerful enough to double as your desktop computer, you'll be impressed with Altima's speed. That's because there's no faster 286 laptop on the market.

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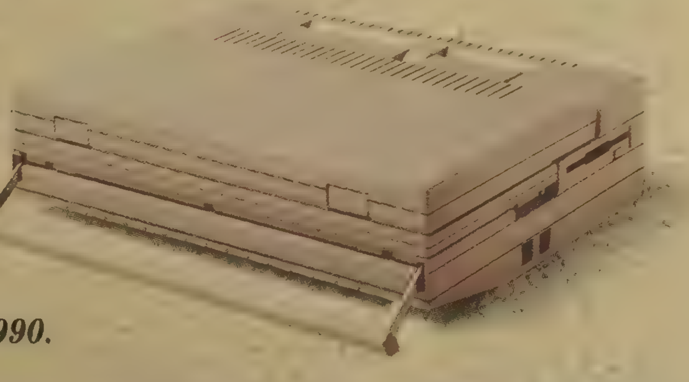

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Altima Systems, Inc., 1390 Willow Pass Rd., Suite 1050, Concord, CA 94520 Phone: 800/356-9990 FAX: 415/356-2408 monster that had started life in dBASE II, migrated to Informix, and was now moving to my Mac came over without a hitch), I wasn't at all familiar with Works and how it deals with such matters. Fortunately, the creators of Works have made this transition as painless as possible—a short, clear paragraph in the manual and a single button in the **Save As** dialog box makes exporting the data fast and simple. Just create and name the merge file and let Works export.

FileMaker's Layout mode is, generally speaking, flexible and easy to use in true Mac fashion—impressive-looking pages of various sizes can be quickly generated with familiar Macintosh tools, and by the people who are using the data.

To prepare FileMaker to import the data, create and define fields in a new database corresponding *precisely* to the fields in the Works database. Make sure spelling, capitalization, and order of occurrence are exactly the same when you're setting up the merge—otherwise FileMaker won't know where to put some parts of your data and you'll have information where it doesn't belong. (If this happens, don't worry—FileMaker shows the first record of the database with the field names, which gives you a quick visual indication if something's in the wrong place. Just re-order the fields in the merge dialog box and do the merge again after clearing out the incorrectly merged records.) You can add as many fields as you want later, but at this point you want no less and no more than you left Works with.

Then go to the File menu in FileMaker, click **Input From**, and choose the merge file from Works. FileMaker will give you a running count of records as it merges.

WORKING WITH THE DATABASE

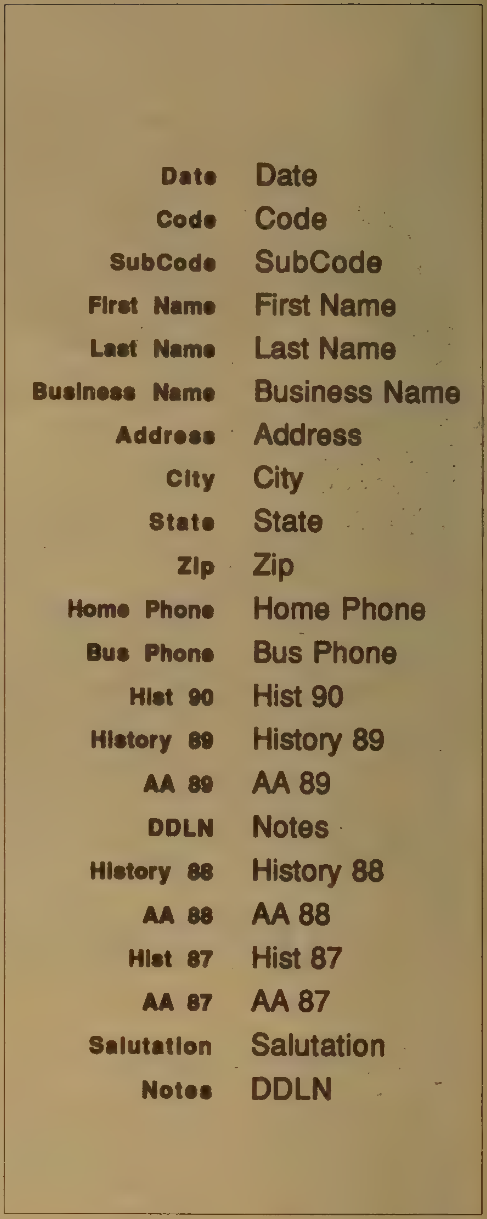
Once the database was merged and all the information in the right place, the next task was to create "windows" on the data using FileMaker's Layout mode—it was fairly rare for anyone to need to see all the information in two dozen fields, but quite common to need a mailing list or a donor history. We immediately created a few layouts corresponding to the existing Works layouts (columnar lists and mailing labels), and then proceeded to design layouts corresponding to the binder pages and index cards so that that information too could go digital. (FileMaker supports custom paper sizes.)

FileMaker's Layout mode is, generally speaking, flexible and easy to use in true Mac fashion—impressive-looking pages of various sizes can be quickly generated with familiar Macintosh tools, and by the people who are using the data. Each person can devise the best way of looking at the data for his or her particular task, and create a layout accordingly.

UNEXPECTED PERSONALITY CONFLICTS

There's nothing like adapting a product you know and love to somebody else's requirements for making you see the familiar in a new light. In the course of this operation we discovered all manner of often-undocumented differences in how the two programs behaved. While everybody's happy with FileMaker's advantages and the new capabilities it gives them, the experience suggests that if you're contemplating moving your database from one program to another, you should pay close attention to the little details you like about your original program, and make sure they exist or can easily be duplicated in the new application. To avoid disappointment, talk to users before you spend your money, and have a clear sense of what's most important to you. You can't anticipate everything, but try.

Case in point: one of the Works layouts Bread & Roses used most was a large columnar layout with horizontal and vertical grids and varying field lengths, which Microsoft just made that way. FileMaker will create the columnar layout quite happily, but you have to manually adjust the size of the fields. Worse, you have to draw the grid lines by hand. At which point you discover that File-



Date	Date
Code	Code
SubCode	SubCode
First Name	First Name
Last Name	Last Name
Business Name	Business Name
Address	Address
City	City
State	State
Zip	Zip
Home Phone	Home Phone
Bus Phone	Bus Phone
Hist 90	Hist 90
History 89	History 89
AA 89	AA 89
DDLN	Notes
History 88	History 88
AA 88	AA 88
Hist 87	Hist 87
AA 87	AA 87
Salutation	Salutation
Notes	DDLN

As a useful troubleshooting aid, FileMaker displays the initial listing in a merged database with the field names displayed in the merge order. In this case, the DDLN and Notes fields were inadvertently transposed when the merge was being set up, a fact that's readily visible in this manner and easy to fix in a dialog box.

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Maker takes a particularly unforgiving attitude toward vertical lines—if a single pixel of the line extends into the header, the line will not extend the full length of the page. It emerged that this was a well-known problem among FileMaker users, but it doesn't figure prominently in sales demos.

Compounding this maddening problem, from the standpoint of the long-time Mac user who's been conditioned to think that you can cut and paste anything to anywhere, is the fact that FileMaker (apparently along with every database manager in the Mac world) will not let you cut and paste layouts from one database to another. Essentially you have to create mailing labels from scratch for each new client, for instance; in this case, it would have made everybody's life a lot easier if I could have debugged the pesky columnar layout at home and moved the finished product into the existing database on-site, but nooooo...

Apparently there are good technical reasons for this problem. I hope they get addressed in a future release.

Another esoteric problem turned up in the different ways the two programs handled searches. When the database was created in Works, each record was assigned various single-letter codes—V for Volunteer, D for Donor, P for Performer, etc. In some cases, the same person would have more than one code—e.g. PD for someone who was both a performer and a donor.

Works, when asked to search for all the P's, would call up not only the single-letter P's, but the PD's, the VP's—anything with a P in the field, regardless of where it occurred. FileMaker, it turns out, indexes each word in the database—something most people don't worry about until they notice that it only finds the records with P as the initial character in the field—it misses VP completely. (When I went wailing to my wizard buddies with this one, I got two solutions—one involving creating a new field using a calculation formula I understood but wouldn't unleash on naive users, the other involving putting a space between each letter in those fields.)

LIFE IS FULL OF TRADEOFFS

FileMaker builds big indexes for the data, which caused this database to grow from A 400K merge file to over a megabyte in FileMaker. This created an immediate problem in backing the database to floppies—currently solved with SuperMac's DiskFit, which will split large files to as many floppies as necessary.

It also runs slower than Works, and while a kindly donor has recently provided the organization with more RAM, the consensus among FileMaker experts is that getting substantially better performance will require either faster CPU's or accelerator cards. I can vouch for the fact that the database works a lot more efficiently on an SE/30 than a plain SE.

Despite these hassles, though, the staff is pleased with the increased flexibility FileMaker has brought them and the ease with which it lets them access the information they need. The office will never be paperless, but the paper will reflect timely and accurate data.

Also, at the rate Claris is forming strategic relationships with the Big Database vendors, by the time Bread & Roses really does need to move its data into some huge application, its staff will be able to keep using the interface they're using now. (Claris Corporation, 5201 Patrick Henry Dr., Santa Clara, CA 95052) ■

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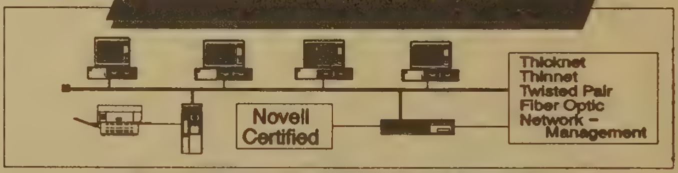

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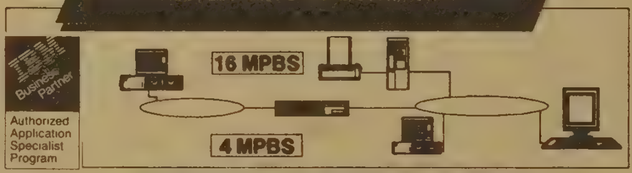

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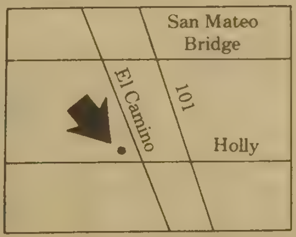

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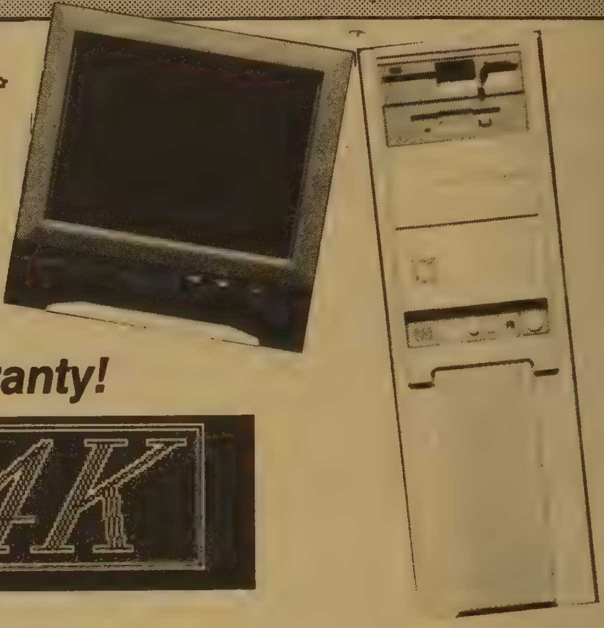

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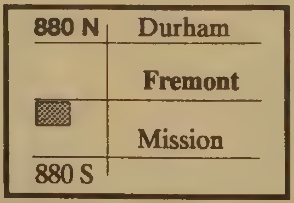

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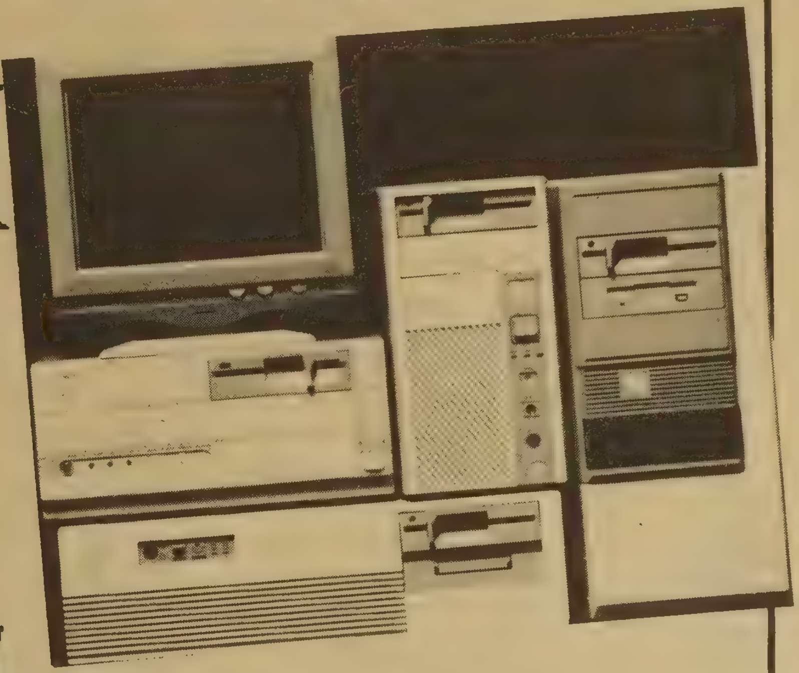

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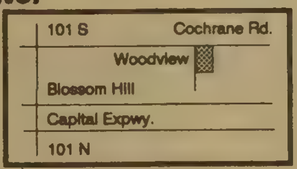

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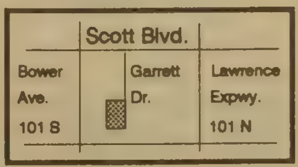

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Success At Last!

BY WAYNE A. YACCO

LOCAL AREA NETWORKS

In its previous installment, we left our story—as all good cliffhangers must be left—suspended, with our hero, LANman, entangled in a network mess. Our intrepid protagonist was pouring his soul into a low-speed LAN from Invisible Software, trying to bring it up—without success.

Well, some stories just don't have a happy ending, and "The Case of the Invisible LAN" seems to be one of them. To be fair, the problems are quite likely to be the result of a bad cable in part of Invisible's package rather than the hardware conflicts the company suggested, but unreturned phone calls leave the matter in doubt.

ENTER LANTASTIC

Fortunately, LANman found a plentiful supply of reliable sidekicks waiting in the wings. This month our story takes a much better turn with the able assistance of Artisoft.

LANtastic is another peer-to-peer network with a speed rating of two million bits per second. It too features full NETBIOS compatibility; you can use it with any NETBIOS network software, Novell NetWare for instance. The starter kit includes two proprietary-protocol boards, cable, terminating resistors, good documentation, and Artisoft's LANtastic Network Operating System, with support for up to 120 users. It runs under DOS—using standard DOS file management, DOS hard-disk formats, and very little memory—and standard network versions of popular software run on it. NOS features include network diagnostics, email, print spoolers, and management utilities.

There are some major ease-of-use differences between LANtastic and last month's contender. Only one switch appears on the board; other settings are controlled from software. I was able to successfully install boards in all of the machines that refused to work with the other network. Despite the age of the Compaq Model 1 and the Eagle Spirit, each machine came right on line after software installation. Even an early 80386-based machine which was drafted as the server worked without a hitch. We all held our breath on that 80386, but nothing needed to be changed on any machine.

The only minor glitch came during the software installation. I encountered an inappropriate program reference in the user manual, but quickly found the solution in the hardware installation manual, most of which I had skipped without adverse effect.

Software installation for each machine took only a minute or two. Users, and the manager's account, were entered via the LAN-management utility, a simple-to-use windowed application. The manual also suggested changes for the Autoexec.bat and Config.sys files which were not required, but which would make things run more efficiently. Logon consisted of three statements that could be entered into a batch file or placed in Autoexec.

I didn't need to call tech support at all in installing the network, but as it happened a small nut was missing from one of the boards' cable connector, so I called to ask for a replacement. I had visions of RMA numbers and long delays, but they didn't materialize. The first good news came when the support line told me how many calls were ahead of mine. Since there was just one such call; I decided to give it three minutes; at two minutes, the message repeated the information that my call was next, and half a minute later I was talking to a technician. "Would you like an RMA, sir, or should we just send you the part?" the man asked. Bad drama, good support!

The management program NET_MGR lets you install your software onto a disk for each node on the system. Once a manager is created, however, the user can assign privileges for other users. There is complete control over resource usage, and an audit trail capability for tracking violation attempts. Other users can be added to the system with a few quick entries that are prompted by a series of pop-up windows. They aren't quite dialog boxes, but they're just as simple to use. There are plenty of advanced commands for fine-tuning the system and getting the best pos-

Copyright © 1990 by Wayne A. Yacco. All rights reserved. An editor, writer, and consultant specializing in microcomputers and their business applications, Wayne Yacco writes articles, columns, and reviews for many trade and business publications. He can be reached at Box 269, Burbank, CA 91503.

The best thing about LANtastic is probably the ease with which you can get it up and running. After that, you can tweak to your heart's content while you're already using the network.

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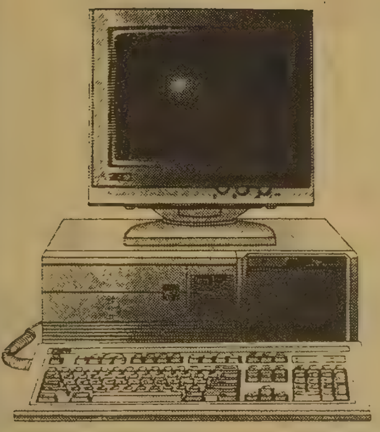

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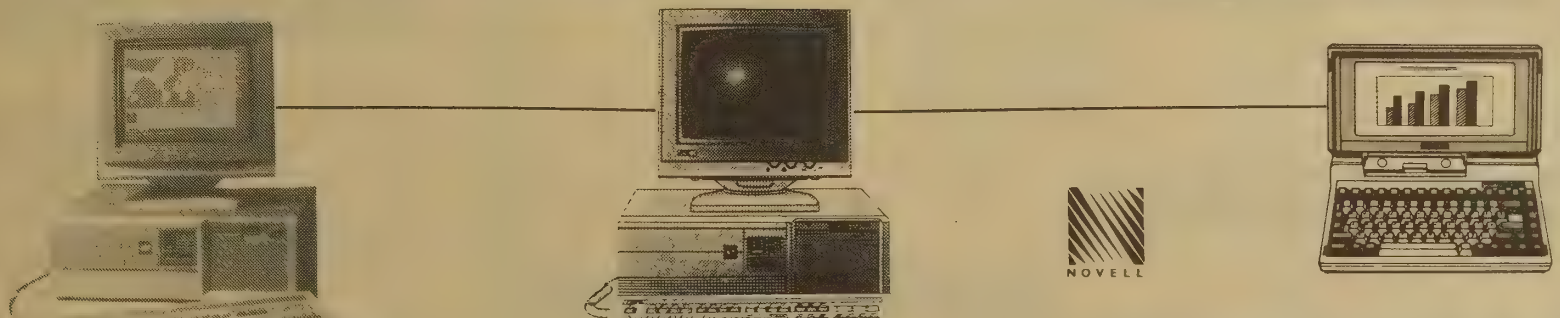

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If you want a low-speed LAN that's easy to install and has terrific support, LANman says "Try LANtastic. Tell 'em LANman sent you."

RHAPSODY

AT&T has announced a new product that it claims will automatically interact with people and applications across a network to complete tasks. Rhapsody can be programmed to gather information from files, to ask users for data, to send tasks to users, to schedule meetings, to put reminders on calendars, to distribute reports for review, to flag potential problems, and to continuously track the status of projects.

> The word on the streets [about Rhapsody] is "awesome." A 20-user system, with server, costs about $8,500 per user.

The system runs on a UNIX-based server under AT&T's StarGROUP Software LAN Manager Server, and supports MS-DOS-based 80286 and 80386 client machines. UNIX system clients are planned for a future release.

The word on the streets is "awesome." A 20-user system, with server, costs about $8,500 per user.

FURTHER ADVENTURES OF LANMAN?

A note has just fallen into LANman's hands detailing the news of the acquisition of Novell by Lotus. Holy vertical integration! Tune in next month for "The Adventure of the Gobbling Greenbacks." (LANtastic is available from Artisoft, 575 East River Road, Tucson, AZ 85704, 602/293-6363. 2 Mbps Starter Kit, $525; 2Mbps Adapter with no software, $249; boot ROM daughterboard, $99) ■

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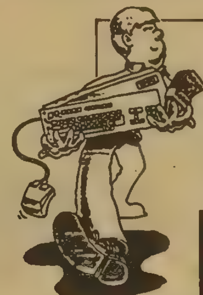

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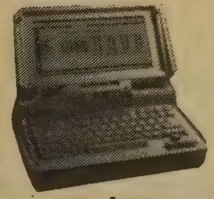

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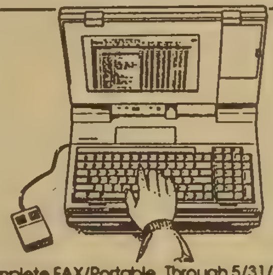

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BY BENNETT FALK

UNIX

UNIX is an operating system in search of an aesthetic. Never mind that it started out as a project to bring to expression some elegant ideas; very few of the UNIX system's users are equipped to appreciate the artfulness of the algorithms and concepts that UNIX embodies. Never mind the knock-down, drag-out fights to determine which of the rival graphical user interfaces will succeed UNIX's traditionally clunky command line interface. The user interface question is a power struggle in which aesthetic considerations are secondary at best.

No, the real aesthetic problem is how to talk about UNIX in polite society artfully, that is, without boring everyone. This is a big problem because UNIX has become a Big Thing, a part of the culture in which we live. The language used to talk about UNIX, however, is still largely esoteric.

For some audiences, reconciling the technical language of UNIX with everyday language is no problem. On The WELL (a conferencing system in Sausalito), for example, an online discussion of dolphin-human sexual encounters got sidetracked into a discussion of the ad hoc encryption scheme (called "rot13") widely used in UNIX circles. Rot13 is a simple way of encoding items that might be offensive to a general audience. Once the idea of rot13 was introduced in the dolphin-human sex topic, everyone had great fun playing around with the algorithms and command lines that, looking like gibberish themselves, have the power to turn readable text into gibberish and then back into readable text. The rot13 discussion elicited a mixture of fascination and amusement, and eventually everyone returned to the original discussion.

Copyright © 1990 by Bennett Falk. All rights reserved. Bennett Falk lives in the Bay Area, writes when he can, and hopes for the best. He works for Sybase, but the opinions and attitudes expressed here are his own.

Of course, The WELL is an unusual environment. In general the people who use The WELL are fond of esoterica and tolerant of digressions. There are also enough UNIX devotees among its subscribers to ensure that UNIX topics are treated authoritatively. Because the UNIX experts are also interested in other topics (like dolphin-human sex), pieces of UNIX lore are likely to show up just about anywhere.

The rest of the world is not so lucky. Books and manuals are still the main source of knowledge about UNIX, but the manuals don't say anything about how to integrate what you know about UNIX with anything else. Outside of enclaves like The WELL, the business of putting UNIX on some kind of cultural map is done by journalists in columns or magazines (*UNIX World, UNIX Review, UNIX Today*) devoted to UNIX.

UNIX VIDEO QUARTERLY

The latest experiment in UNIX journalism is David Fiedler's *UNIX Video Quarterly*. The *Quarterly* is a video magazine about UNIX that features interviews, demonstrations of products, book reviews, and coverage of events, and it's interesting to see where, on the cultural map, this experiment puts the UNIX community. (For more information, write UNIX Video Quarterly, P.O. Box 220, Rescue, CA 95672, (916) 677-5870.)

David Fiedler is the executive producer, writer, and narrator for *UVQ*. He has written extensively about UNIX and worked as a consultant on issues related to UNIX and C. But video is a tricky medium, and it will take more than knowledge of the industry to make the *UNIX Video Quarterly* a success.

The premier issue of the *Quarterly* contains 16 items, including an interview with David Flack of *UNIX World*, an informal overview by Jim Joyce of some recent books about UNIX, newsy pieces about UNIX Expo and InterOps, and a dozen demos of or commentaries on products by their manufacturers. This is enough to create the feeling that your living room has been invaded by a trade show.

The range of products discussed is very broad. There are databases, fax systems, graphical user interfaces, computer-assisted telephone interviewing systems, benchmarking tools, real-time operating systems, and computer hardware. There is something here for everyone, but the emphasis is clearly on what might appeal to UNIX users in a business environment; hackers, hobbyists and even system administrators may have to scramble to find items of interest.

Separating hype from information in the product presentations is not easy. There are

> **The opinions are naturally diverse, ranging from Intel's shrinkwrap-thumping zealot to the presenter who decried the preponderance of "toxic waste" in USENET newsgroups. This is hard to take without an occasional word from the Voice of Reason to remind the viewer that the UNIX universe is not completely unhinged.**

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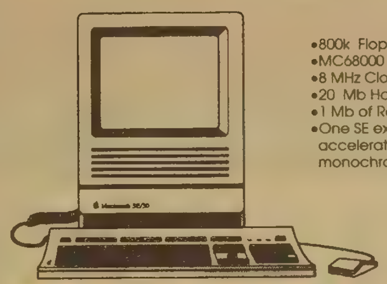

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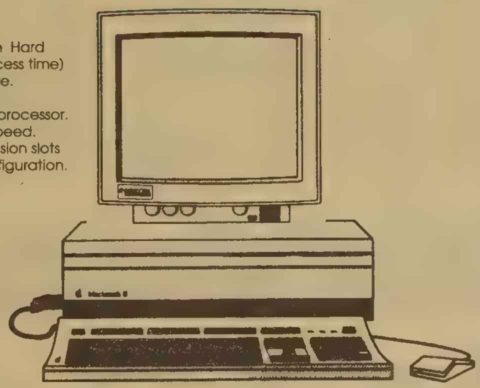

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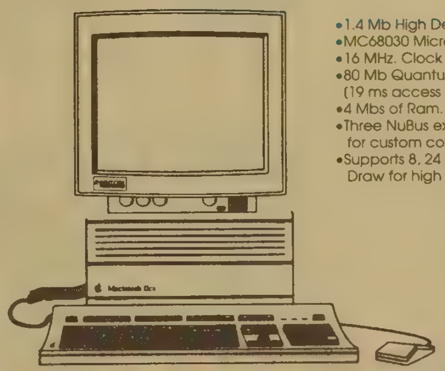

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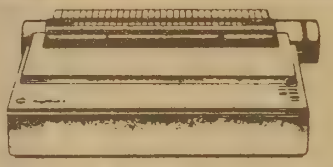

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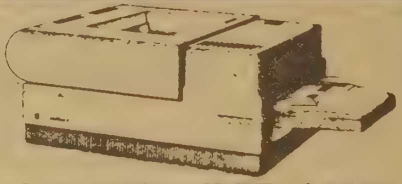

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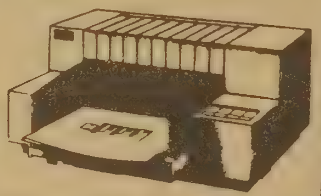

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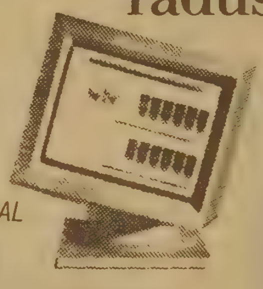

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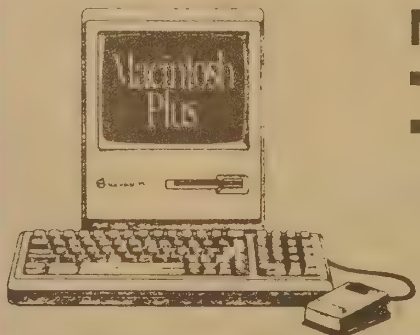

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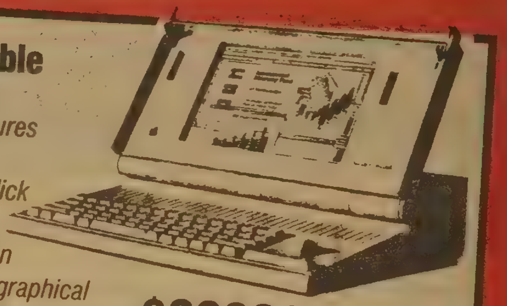

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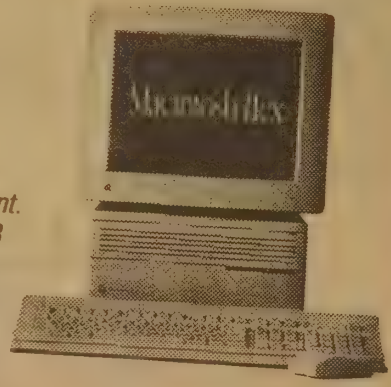
Macintosh IIcx



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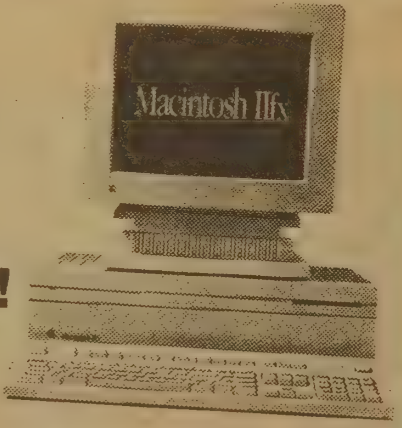

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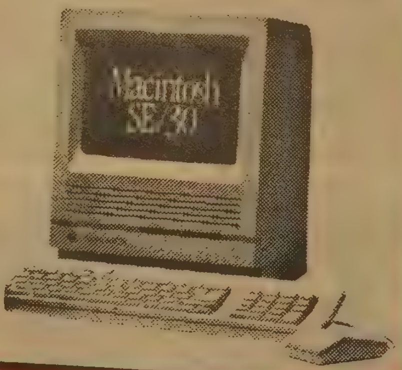

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> **The premier issue of the Quarterly contains 16 items, including a dozen demos or commentaries on products by their manufacturers. This is enough to create the feeling that your living room has been invaded by a trade show.**

no paid advertisements in the *Quarterly*, but the product segments are essentially the manufacturer's demos, not critical reviews by disinterested parties.

Even taking this into account, some demos translate well to video and some do not. Three of the products discussed are graphically interesting: Looking Glass from Visix, OpenLook from AT&T, and Informix's multi-media database product On-Line. Of these, Looking Glass fares best, with a crisp graphical user interface reminiscent of that used by NeXT. The screens shown in the Open Look segment of *UVQ* are hard to read, and the video capabilities of Informix's On-Line don't re-photograph well. Seeing a video of a graphics product really isn't an adequate substitute for seeing the product perform in person.

AVOID TALKING HEADS

In its first issue, the *UVQ* seemed to grope for stage presence. David Fiedler himself seemed self-conscious in front of the camera, and his delivery of the introductory material for the various segments should qualify him for a charter membership in Bob and Ray's Slow Talkers of America.

Introducing the interview with David Flack, Fiedler alluded to the television producer's maxim "avoid talking heads," and yet almost everything in the premier issue was a monologue. Real human interaction of almost any kind, two people on camera at once, would have been a great relief.

The product items were typically represented by men dressed in suits and talking fast. The man from Intel had a peculiar, evangelical intensity as he talked about shrinkwrap and unifying the UNIX marketplace. If the AT&T Open Look presenter had used the phrase "very quickly and easily" one more time, I would have run shrieking from the room. During the Informix demo, presented by a woman, the camera seemed overly fascinated with the image of a nicely manicured hand working with a mouse. Jim Joyce's segment was relaxed and easy to listen to. Dressed in what looked for all the

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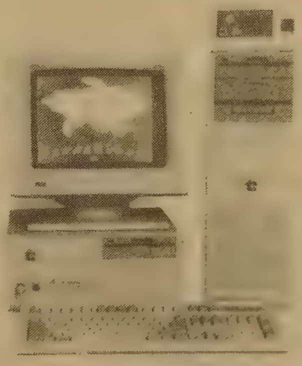

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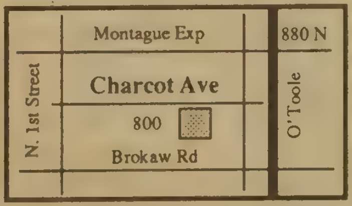

> **There is something here for everyone, but the emphasis is clearly on what might appeal to UNIX users in a business environment; hackers, hobbyists and even system administrators may have to scramble to find items of interest.**

world like a smoking jacket, seated in front of a large bookcase, Jim would from time to time reach up, down, left, or right, and always off-camera, to pluck a book out of thin air we could not see.

POINT OF VIEW

The fundamental problem with the premier issue of *UVQ* is that it begs the aesthetic question: it lacks an editorial voice. Even though the *Quarterly* is positioned as a kind of industry newsletter, the creators of this experiment seem unsure of what they can and cannot say. Consequently, the presentation is very conservative. Fiedler expresses no opinions about the items he presents. Even the usually voluble Jim Joyce plays it safe.

To be sure, many editorial opinions are expressed in the course of the video, but these are the opinions of the vendors whose products are represented. The opinions are naturally diverse, ranging from Intel's shrinkwrap-thumping zealot to the casual presenter from Anterior Technology who decried the preponderance of "toxic waste" in USENET newsgroups. This sort of thing is hard to take without an occasional word from the Voice of Reason to provide some kind of baseline to remind the viewer that the UNIX universe is not completely unhinged.

In fact, the Voice of Reason does eventually have its say in the interview with David Flack, Editor-in-Chief of *UNIX World*. Flack is a very good speaker, and he has interesting opinions about the forces that drive the UNIX marketplace. His view is that the UNIX industry is basically a service industry that needs to offer convenience and economy to users. A necessary component of this industry is a free press which offers accurate technical information and reasonable opinion in language everyone can understand without being obligated to the vendors' interests.

If it can take this lesson to heart, the *UNIX Video Quarterly* will be journalism worth watching. ■

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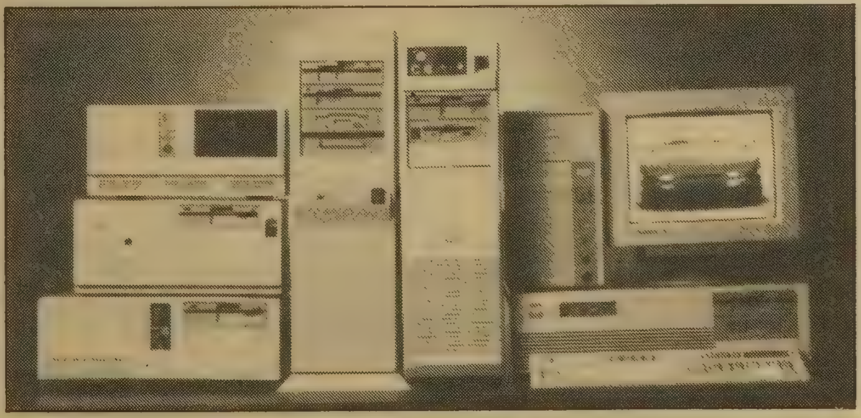

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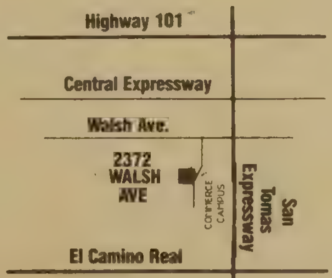

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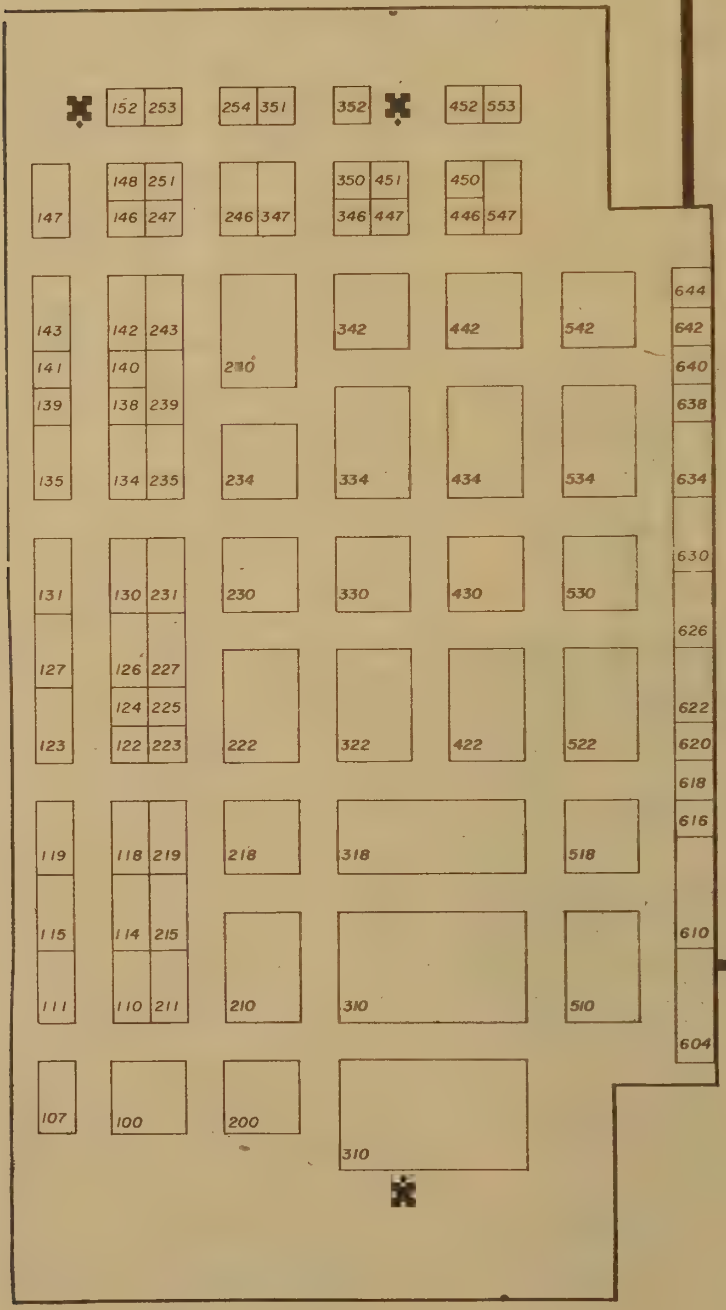

UNIX EXPO WEST
Schedule of Events

MONDAY MAY 7, 1990

11:00 a.m.-6:00 p.m.			Exhibit Hours
9:00 a.m.-12:00 noon	Tutorials	A1	Overview of UNIX System Internals (Part 1)
		A2	An Introduction to X Windows and Toolkit Programming (Part 1)
		A3	Object-Oriented Programming in C++ (Part 1)
		A4	Basics of UNIX System Administration
9:30 a.m.-11:00 a.m.	Conference	M1	**Which UNIX? - Should Anyone Care About OS's in the '90s**
		M2	**The DOS Users Dilemma - UNIX or 05/2**
9:30 a.m. 11:00 a.m.			UNIX System Primer
1:00 p.m. - 2:00 p.m.	Keynote Address		**Bill Joy, Vice President Sun Microsystems, Inc.**
2:30 p.m. - 5:30 p.m.	Tutorials.	A1	Overview of UNIX System Internals (Part 2)
		A2	An Introduction to X Windows and Toolkit Programming (Part 2)
		A3	Object Oriented Programming in C++ (Part 2)
		A5	Security Measures for UNIX Systems
3:30 p.m. - 5:00 p.m.	Conference	M3	**UNIX Standards - An Update**
		M4	**Viruses - Prevention and Cure**
3:30 p.m. - 5:00 p.m.			UNIX System Primer

TUESDAY MAY 8, 1990

10:00 a.m.-6:00 p.m.			Exhibit Hours
9:00 a.m.-12:00 noon	Tutorials	B1	New Features of UNIX System V Release 4.0 (Part 1)
		B2	ISDN - Integrated Services Digital Networks (Part1)
		B3	Local Area Network (LAN) Overview
		A1	Overview of UNIX System Internals (Part 3)
9:30 a.m. 11:00 a.m.	Conference	T1	**Security in the Network Environment**
		T2	**RISC Workstation Comparisons**
9:30 a.m.-11:00 a.m.			UNIX System Primer
11:30 a.m.-1:00 p.m.	Conference	T3	**CASE: A Users Perspective**
		T4	**Animation/Simulation**
11:30 a.m.-1:00 p.m.			UNIX System Primer
1:30 p.m.-4:30 p.m.	Tutorials	B1	**New Features of UNIX System V Release 4.0 (Part 2)**
		B2	**ISDN - Integrated Services Digital Networks (Part 2)**
		B4	**UNIX System V Interprocess Communication**
		A1	Overview of UNIX System Internals (Part 4)
3:30 p.m.-5:00 p.m	Conference	T5	UNIX Technology in the 1990s
		T6	Object Oriented Design and Programming

WEDNESDAY MAY 9, 1990

10:00 a.m.-4:00 p.m.			**Exhibit Hours:**
9:30 a.m.-11:00 a.m.	Conference	W1	X-Windows on a Desktop
		W2	High Speed Network Options
9:30 a.m.-11:00 a.m.			**UNIX System Primer**
11:30 a.m.-1:00 p.m.	Conference	W3	Perspectives on X Toolkits
		W4	Connectivity Strategies: (...UNIX + DOS + MAC +)
11:30 a.m.-1:00 p.m.			**UNIX System Primer**
2:00 p.m.-3:30 p.m.	Conference	W5	CAD/CAM Integration: A Users Perspective
		W6	Technical Document Management

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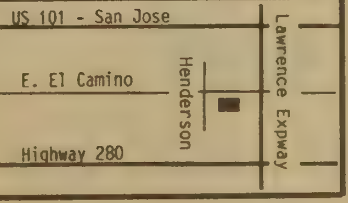

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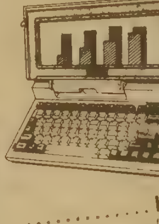

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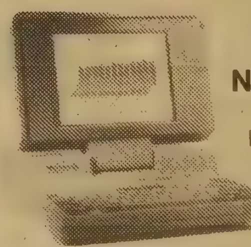

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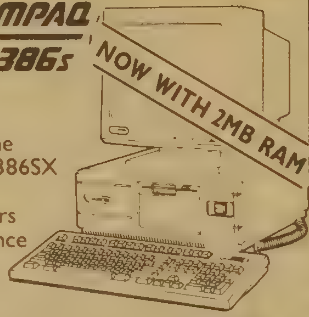

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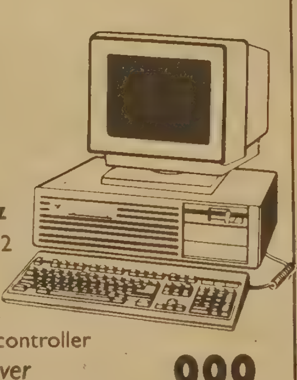

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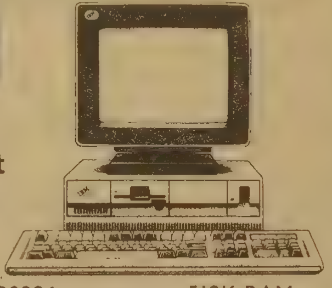

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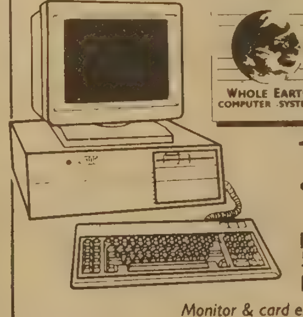

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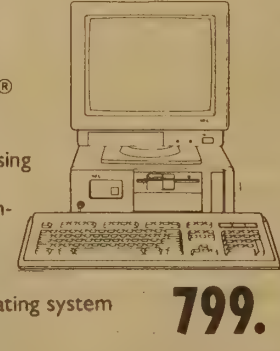

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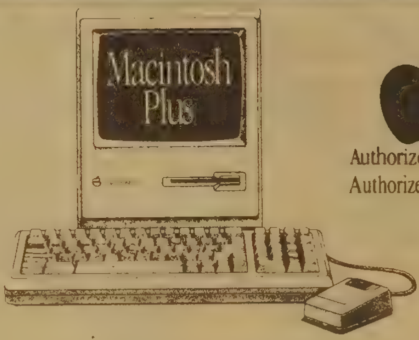

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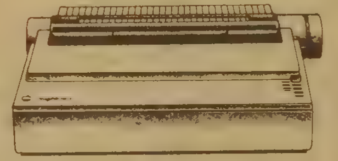

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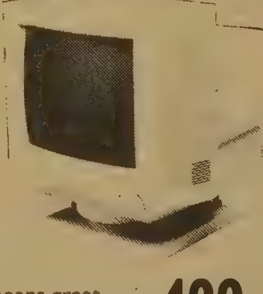

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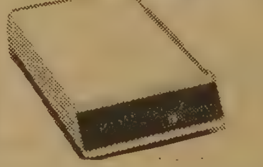

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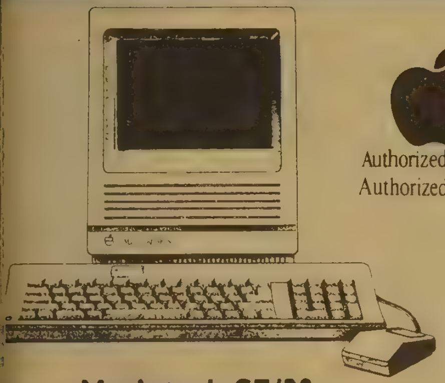

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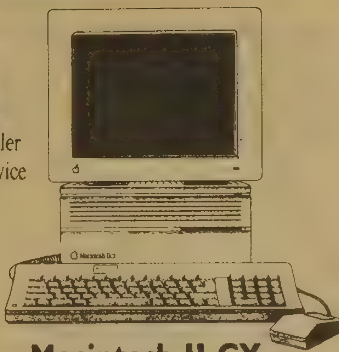

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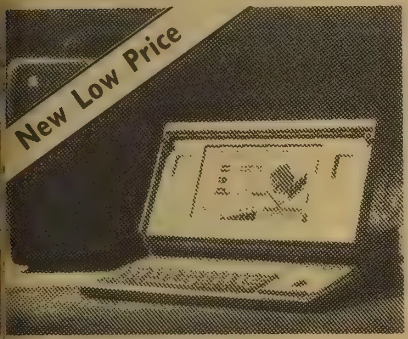

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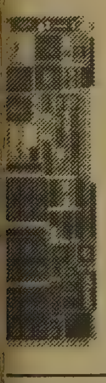

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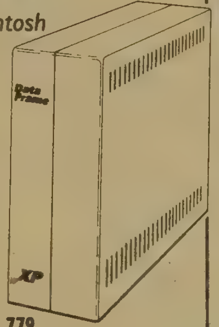

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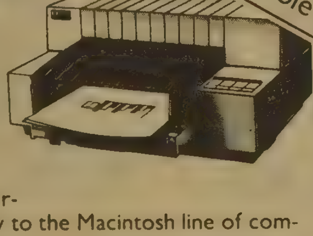

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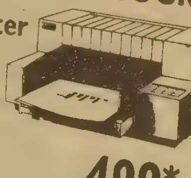

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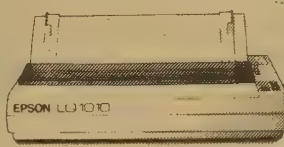

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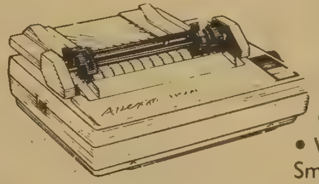

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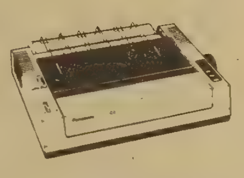

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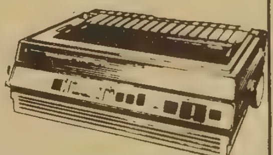

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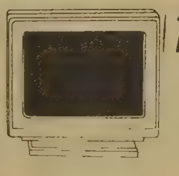

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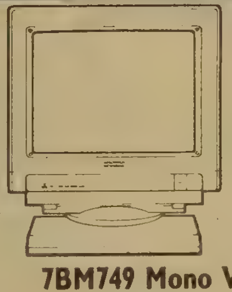

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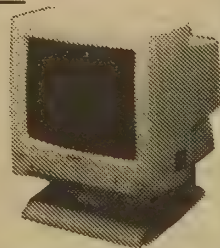

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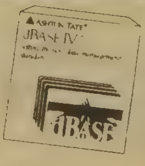

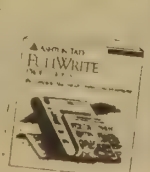

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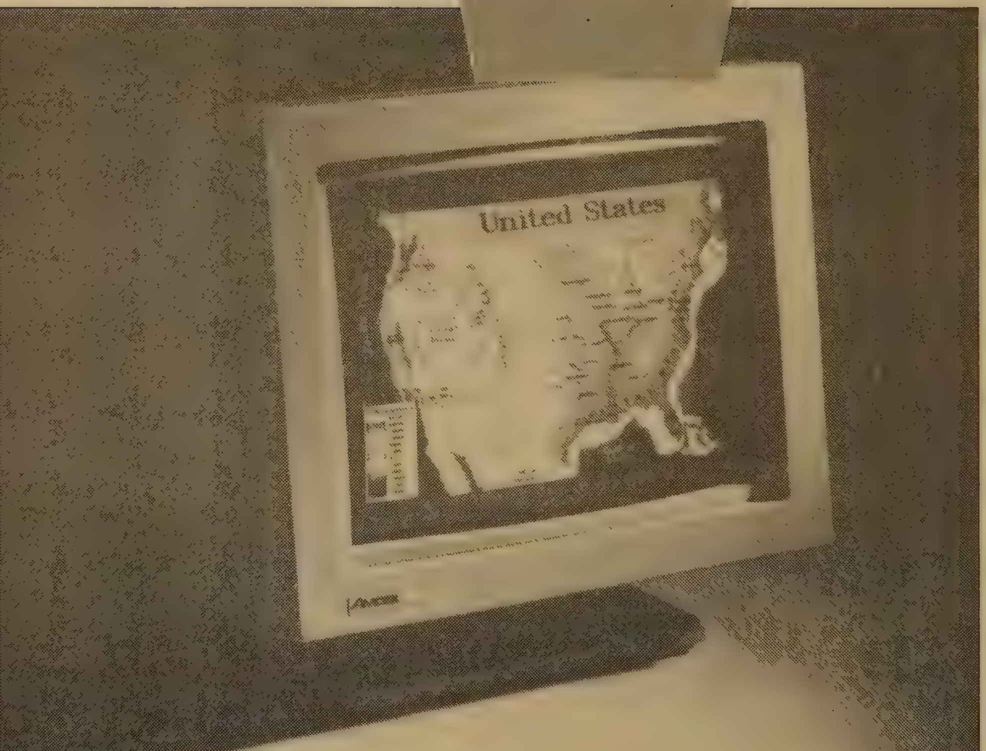
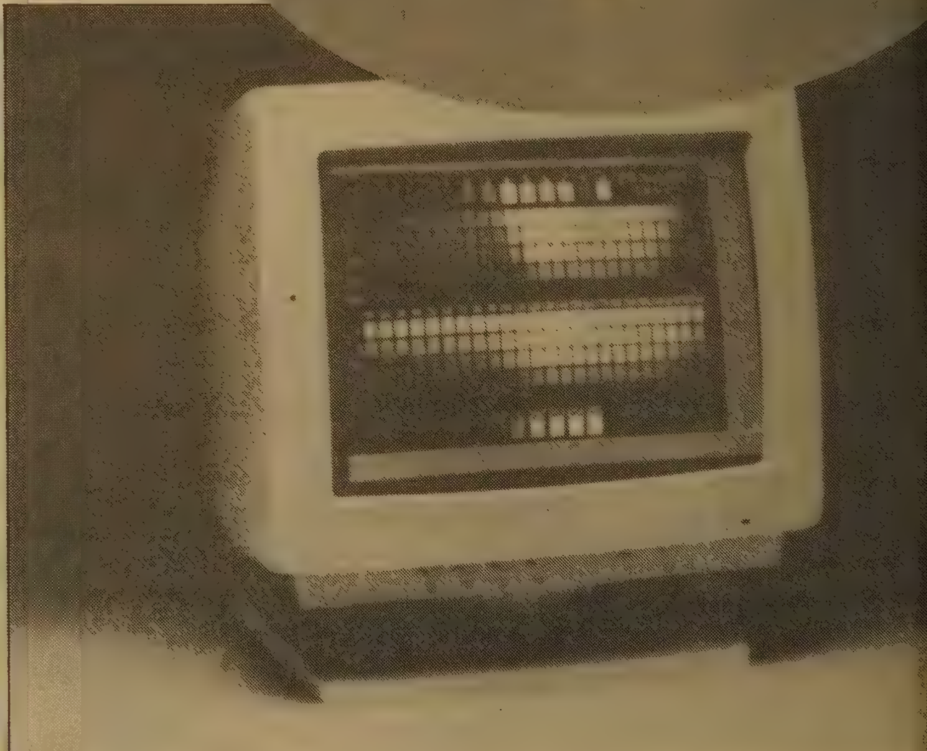
Shopping For VGA

By Jim Meyer
and
Dan Burleson



Amdek's AM/738 SMARTSCAN high-resolution, color graphics monitor can scan between 34 and 38KHz, which eliminates screen flicker and improves image quality.



Mitsubishi FA 342S 14-inch auto-tracking color monitor.

Have you been considering one of the new high-resolution VGA (Video Graphics Array) monitors? As even the stodgiest word processing programs move toward the graphical interface, VGA is becoming more commonly used. Assess your needs and think about the applications you spend the most time using. Do you spend the majority of your time working with a spreadsheet? Word processing? Desktop publishing? A graphics or paint program?

If you're running graphics, CAD/CAM, desktop publishing, icon-driven menus, or anything that doesn't require a lot of onscreen reading, 1024 x 768-pixel display standards make your screen come alive. Crisp lines, sharp colors, and dynamic images will provide new windows into your work.

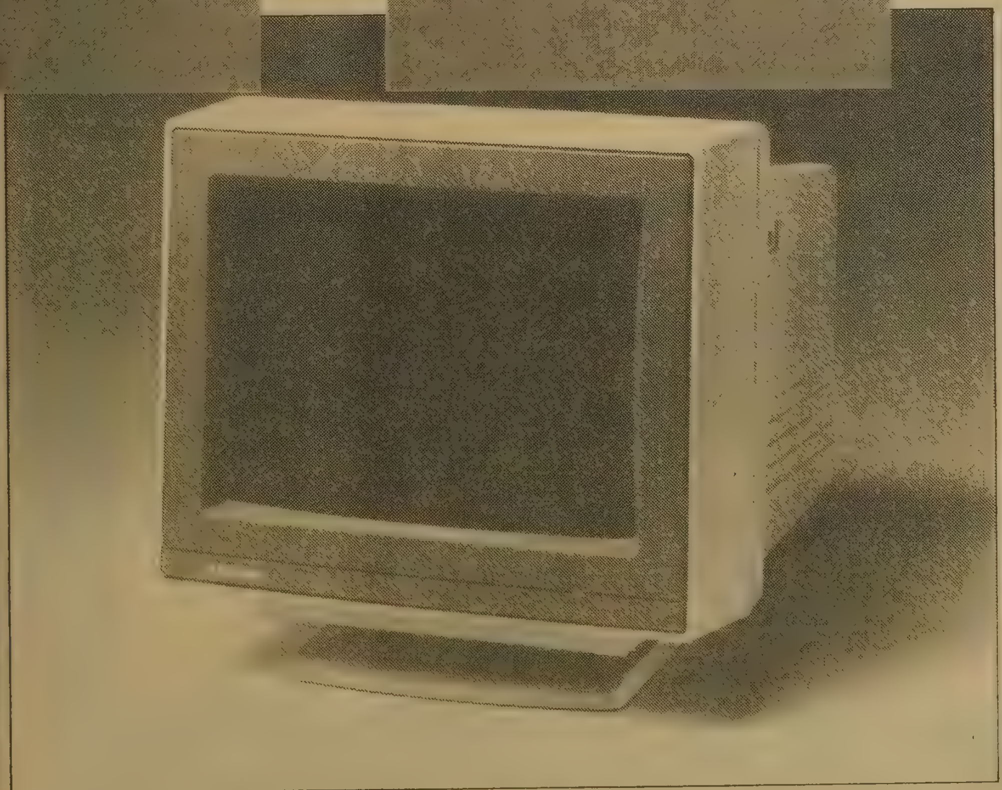
Text is a different matter. If you use words and numbers in high-resolution graphics modes, you might be unhappily surprised at the size of the characters. Don't assume alphanumerics will be the same size as they are on your 600 x 400 monochrome display, only sharper. They will be clear (at least with a good monitor and card) but reduced in size. As a result, more information appears on the screen.

This will be an advantage in some situations. You see extra columns and rows on spreadsheet screens. File directories will display more entries before scrolling off the page. Legible full-page previews will materialize in publishing programs.

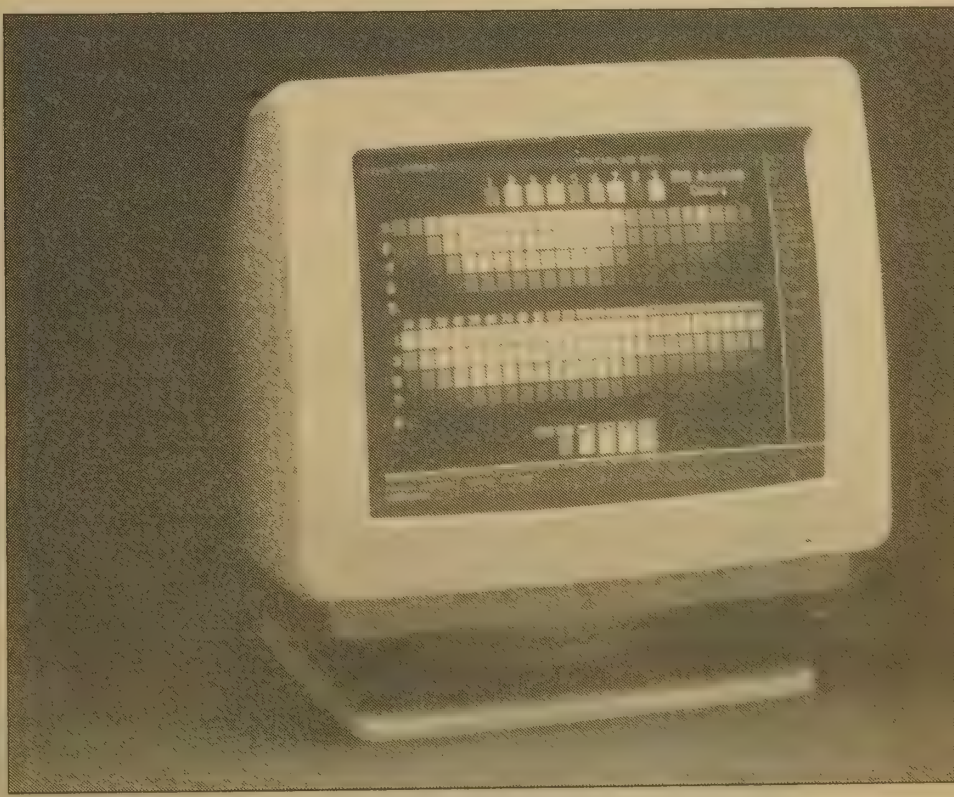
But writing and data entry applications depart immediately for Squint City. The appearance of characters in Microsoft Word 5 and Windows is minute, sort of like the Declaration of Independence printed on the head of a pin. For word processing applications, running VGA monitors at 800 x 600 produces a more readable size.

For this article we looked at six popular monitors—the Amdek AM/738, CTX CSV-3450, Mitsubishi FA3425, NEC MultiSync 3D, Relisys RE-1520, and Tatung CM-1498X—all with the same resolution standard of 1024 x 768. Resolution was our most important consideration, but we also looked at such issues as convergence, image stability, power, compatibility and screen size.

Equally important as the monitor itself is the selection of the VGA card to drive it. We found that different boards produced a wide range of results in the quality of screen display. Choose a card, then use it to compare different monitors. Since there is less than full compatibility among the products of different vendors, be sure the card you choose will drive the monitors you may be considering. All consoles connect to the CPU with a 15-pin video cable.



The Tatung CM-1498X 14" high-resolution Super VGA color monitor with extra-fine def pitch of 0.28mm.



CTX CSV-3450 14" monitor with 1024x768-pixel display.

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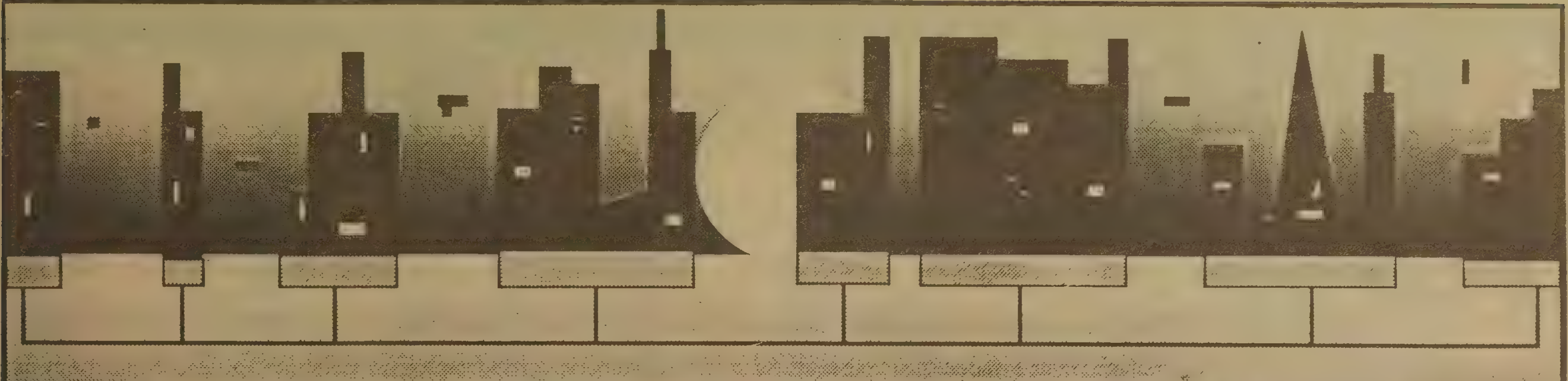

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COMPARISON OF SIX POPULAR VGA MONITORS

Manufacturer/Model	List Price ($)	Dot Pitch (mm)	Screen Size Visual Diag. (inches)	Screen Type	Dimensions (inches)			Weight (lbs)	Horiz. Scan (KHz)	Vert. Scan (Hz)	Power Consump. (Watts)	Controls				Comments
					W	H	D					Horiz. Size	Vert. Size	Horiz. Pos.	Vert. Pos.	* = Recommended
Amdek AM/738	835	.31	13	Tinted	13	14	15	30.0	34.0 - 38.0	50 - 90	84	Y	Y	Y	N	Excellent Glare Reduction Overall Good Values *
CTX CSV-3450	655	.28	13	Etched	14	15	15	28.2	20.0 - 38.0	50 - 90	90	N	Y	Y	Y	Good Color, Bargain Priced
Mitsubishi FA3425K	1175	.28	13	Non-Glare	14	12	15	28.9	15.7 - 35.5	50 - 87	90	Y	Y	Y	Y	Best Documentation, External Composite Inputs
NEC MultiSync® 3D	1049	.28	13	Etched	14	14	16	35.3	15.5 - 38.0	50 - 90	73	Y	Y	Y	Y	Digital Front Controls, Great Street Price, Overall Excellent Value *
Relisys RE-1520	1099	.31	14	Tinted	16	15	16	33.1	30.0 - 50.0	50 - 80	120	Y	Y	N	Y	14" Flat Screen, High Quality, External Composite Inputs *
Tatung CM-1498X	799	.28	13	Tinted	14	12	16	27.6	31.5 - 35.5	80 - 90	70	Y	Y	N	Y	Reasonably Priced, Convergence Problems in Test Unit, Poor Controls

WHAT TO LOOK FOR

Dot pitch, the distance between phosphor dots coating the screen, is a major factor in the crispness of the display. Generally, the closer the dots, the better the image. The six monitors we looked at deliver either .28 or .31 mm dot pitch, respectable quality.

When you're test driving, use a graphics or paint program to create as large a screen of white as you can. Let the monitor run for several minutes and watch for areas of faintly colored shadows blotching areas of the screen. This phenomenon is the result of poor convergence of the red, green, and blue phosphor dots. If they fire precisely, white appears on the screen. If you find a monitor that otherwise works well for you but it has a convergence problem, the vendor may be able to clean it up, since this trouble can be corrected by qualified technicians. We found that the NEC 3D, Relisys RE1520 and Amdek AM/738 all displayed excellent color convergence.

Experiment around the spectrum. We created a primarily cyan screen with a little magenta and noticed a series of lines arrayed like iron filings exposed to a magnetic force. The pattern was distracting on some screens, particularly the NEC and CTX 3450.

Multisync/multiscan monitors are a good investment. Color appears on the screen as the result of electrons being fired from three guns, temporarily exciting the screen phosphors. After finishing one line, the guns move lower and scan the next. When they get to the bottom of the screen, they move to the top and start over. The display is a product of the horizontal and vertical scanning rates of the monitor. The horizontal frequency may vary from 60-70 Hertz (Hz), or cycles per second. As video standards and products continue to improve, the flexibility of a monitor that can accommodate changing requirements is worth the current price difference.

Image stability is also important. The constant refreshing of symbols on the screen require high precision components. Poor monitors display rapid jiggling movement known as jitter. Better-manufactured units confine character movement to a minimum. The Relisys and Amdek models were noteworthy in displaying almost no motion in the screen image. (Be sure there are no other monitors, fluorescent fixtures or electronic equipment operating in close proximity—less than a foot—to the test unit. Electrical disturbances may result from these devices, and distortions will appear on the viewing screen).

When testing a monitor's performance, jump around from application to application. Carefully adjust the screen aspect, the relationship between vertical height and horizontal width. Paint or graphics programs allow you to set a perfect circle or square on the screen. If the aspect ratio needs adjustment, a circle will appear oval and a square looks rectangular. Calibrate the H- and V- size controls so these images assume a correct shape.

After you exit a program, check the margins of text. Has any text disappeared under the edge of the screen? If so, adjust the positioning controls, run another program, exit, then see if the text has jumped off the screen again.

All the units we tested showed remarkable chromatic quality. Every monitor displayed an unlimited palette of bright and vivid colors in analog input.

Turn test units to face a bright source of light to see how they deal with glare. Glare can be a real problem, and vendors usually address it by etching the glass or coating the screen. We found that the Amdek, Mitsubishi and NEC screens reflected the least glare, but all six units were acceptable.

At 1024 x 768, screen size is critical, with 13 visual inches being the minimum adequate. Tatung and Amdek claim a 14" diagonal screen size, and the Relisys (which has the added advantage of having the only flat screen we tested) claims 15". However, we found their actual viewing areas an inch shorter than claimed.

ONLY YOU KNOW WHAT'S RIGHT FOR YOU

What matters is how the screen looks and feels to you. Run a test monitor at least 15 consecutive minutes so it assumes normal operating temperatures. Some defects don't appear until the display warms up.

Since a certain amount of fiddling is inevitable with color displays, it's nice that manufacturers finally put most of the controls at the front or side of the housing. The Amdek 738 controls brightness and contrast with unique and responsive rollerballs on the side of the cabinet. The NEC provides a nice touch—incremental adjustments controlled by digital push buttons directly below the screen.

When you test displays, be sure to bring your software or request a demonstration using the programs you use or intend to use. Make sure the driver of the graphic card you select supports your software.

Eyes are valuable. Text-based programs may be better run at lower resolutions and larger sizes. But the true beauty of high-res VGA comes through in graphic modes. So trade the Bahamas vacation and the luggage for two weeks in the Sierras and plunk the difference down on the best monitor available. In the long run you'll probably save a fortune in optometry bills.

Monitor selection is ultimately a personal decision. By going through the process of running different software applications on a number of monitors, you will begin to appreciate how technical specifications translate to the screen. Your choice will probably be as much a matter of feeling as of formula, but unless you're feeling particularly lucky, don't take shortcuts in the evaluation process. ■

We found that different boards produced a wide range of results in the quality of screen display. Choose a card, then use it to compare different monitors. Be sure the card you choose will drive the monitors you may be considering.

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Disney Animator Finds Happiness With Amiga Home Studio

BY BEN & JEAN MEANS

You may not know Heidi Turnipseed by name, but you've probably marveled at her work on Disney classics like *Robin Hood, Winnie the Pooh and Tigger Too, The Rescuers* and *The Fox and the Hound.* A full Disney animator, Heidi blazed her name brightly into animation history with her work on the Don Bluth production of *The Secret of NIMH,* which became the top-grossing first release animated film of all time; the groundbreaking video arcade game "Dragon's Lair"; and the legendary Stephen Spielberg production *An American Tail.*

Heidi Turnipseed is one of fewer than 50 currently working animators who have earned the prestigious title of full Disney animator. In 15 years in the Disney studio and with the brilliant renegade Bluth, studio animation was the only career she had ever known. When rising costs and controversial contracts forced Don Bluth onward to the friendly financial climate of Ireland, Heidi stayed wistfully behind. Faced with an uncertain future, she remembers, "I had broken away from wanting to be in the studio. I didn't want to go back and work in-house at Disney or Filmation or one of the Saturday morning cartoon crank-out studios."

Animator Heidi Turnipseed in her Amiga-based home studio.

CLASSICAL ANIMATION

Classical animation looks effortless, as animators breathe life into colored creatures who cavort through enchanted realms of entertainment. But behind every Disney-style animated movie is an animation army and a costly array of equipment; a home animation studio was the impossible dream until Heidi discovered the Amiga—"I couldn't afford the equipment, and the traditional animation process takes too long."

A classical cel animation begins with the animator who makes line drawings of the key frames, or "extremes," depicting the character's movement. The animator then shoots a pose, or "pencil," test of these line drawings on videotape where the line-drawn character appears to jump from extreme to extreme. If the director approves this pencil test, a team of breakdown artists and "inbetweeners" will draw the frames in between the animator's drawings to smooth the action, and shoot another pencil test to recheck the scene. Then an assistant animator does the final cleanup on the whole stack of drawings.

Copyright © 1990 by Ben and Jean Means. Ben Means is the proprietor of Zen Yoyo Music, the author of hundreds of songs, the owner of his own 12 track studio and recent teacher of the AmiExpo Master class in computer music. Ben and Jean, contributors to many computer publications, wish to especially thank Kate Prohaska, the resident genie of Commodore Business Machines, for proving that Commodore is finally doing a lot of things right.

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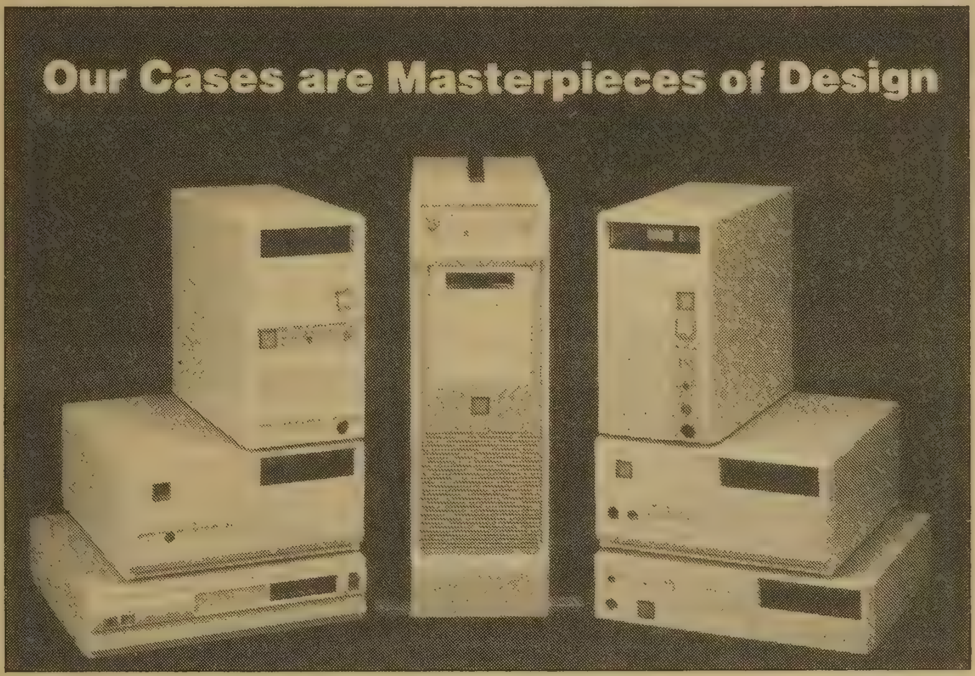

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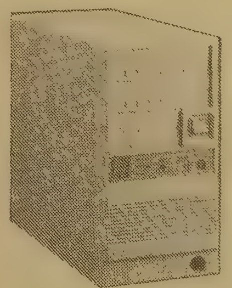

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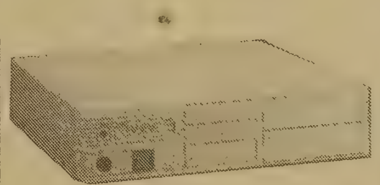

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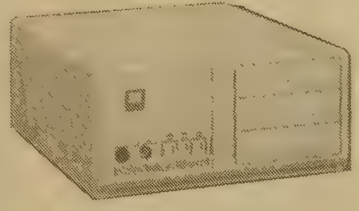

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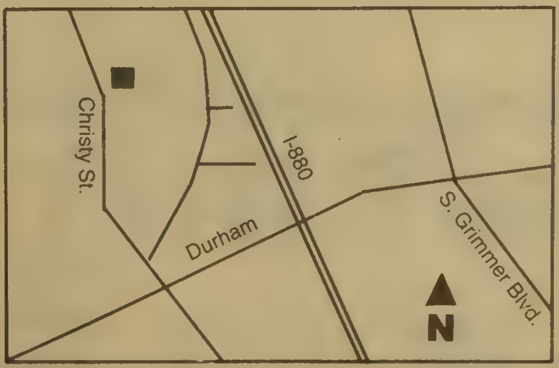

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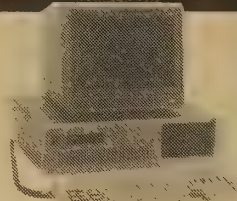

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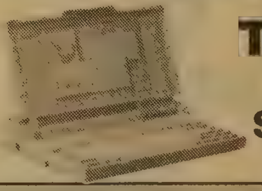

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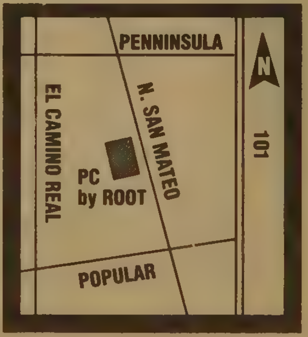

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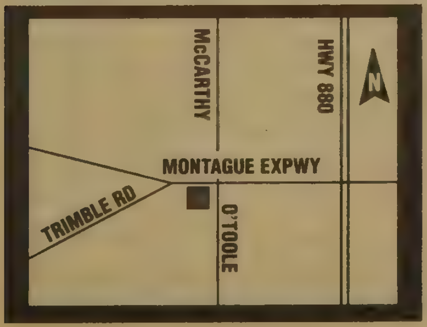

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Behind every Disney-style animated movie is an animation army and a costly array of equipment; a home animation studio was the impossible dream until Heidi discovered the Amiga.

The animation work has only just begun. Next, the Xerox lab shoots the drawings onto transparent celluloid (hence, the name "cel animation"). "But," Heidi says, "the peg holes on the Xerox cels never line up 100% with the original drawing; so a Xerox checker, usually some poor fledgling trying to break into the business, has the tedious task of correcting the registration." The Xerox checker lines up the pencil drawing with each Xerox cel, repunches the holes in the Xerox cel and adds stickons so the cels won't move. Then the cels go down to the paint department for hand painting by cel painters. The camera department composites the hand-painted cels over the backgrounds, also hand-painted by scenery artists, and finally lays the scene to film, one frame at a time.

Classical animation is costly—Heidi says, "Without the Amiga, independent animation would be out of the question. There's no way I could do it. I don't own a $100,000 Oxbury animation camera, I don't own a Xerox lab that puts Xerox lines on celluloid, and I don't own a paint lab that has all the different colors of vinyl cel paint." But Heidi has handily replaced all this expensive gear for a few thousand dollars with an 8mm camcorder, a digitizer, a genlock, a few pieces of software and an Amiga 2000.

THE REVOLUTIONARY HOME ANIMATION STUDIO

"With the Amiga, I no longer have to work for a studio," Heidi beams. "And for the first time, I've been able to see my work all the way through to the final color animation.

"For the first 15 years of my career, when I finished my line drawings, an animation supervisor took them out of my hands, and I didn't see the scene again until the movie was finished. Now, I paint my own background, color my own animation and play it back in color for myself. So this tickles me; I have complete creative control!"

Heidi still draws her original line drawings on the traditional onionskin paper, but from the moment she digitizes those drawings with DigiView 3.0, the Amiga is her animation workhorse. Her low-cost Amiga gives her even more than she bargained for: it has completely eliminated the need for tedious xerox checking. Says Heidi, "Once the drawing is digitized into the Amiga, the registration is perfect! It doesn't jiggle or get off registration; it's ready for painting."

Once Heidi has all her drawings digitized into the Amiga, she has all the advantages of random access memory. She simply loads all the drawings into Cel Animator (MicroIllusions, $79.95) in order, selects the speed for playback and presses play to begin an endlessly looping pencil test on her computer monitor. This immediate feedback is a far cry from the limitations of rigid sequential media in the classical animation process.

A traditional pencil test uses an $8,000 Lyon Lamb video controller to shoot the line drawings frame by frame onto videotape, so the director can check the action and timing. It's an elaborate process, and videotape is a sequential medium. "With the Lyon Lamb," says Heidi, "if I want to change the order of one or two drawings in the middle of an 80-frame sequence, I would have to shoot all 80 frames over again. But with the Amiga's random access memory, I can just call up the order file and arrange the frames in any order I like and play them back right away.

"It takes a little longer to digitize each picture than it does to just shoot it on the Lyon Lamb, because it takes about 30 seconds to digitize each frame. But once it's in the Amiga, you have all this versatility. For instance, I did an animation of a galloping horse. Typically, I would have shot this animation on the Lyon Lamb system, which would lay the output to a video tape machine. Since tape is a sequential medium, I would have to shoot frames 1 through 10, 1 through 10, 1 through 10, 1 through 10, 1 through 10.

"When you play it back, the horse gallops five times, and then you have to reel it back to see it again. But on the Amiga running Cel Animator, I only have to digitize those frames into memory one time, and it will play as a loop as long as I want it to.

"So the convenience of this is just terrific; the Lyon Lamb system costs $8,000, and you can set up and have your own pencil test system with the Amiga for under $2,000. The Amiga makes a big difference; now an animator can have a home pencil test system, instead of having to drive into the studio. Animators don't even know this yet."

Once Heidi has perfected the movement of her character in the pencil test, all that remains is to color her digitized pencil drawings and to add scenery. Heidi's talents lie more with animation than with paint. But with tools like Photon Paint and Deluxe Paint 3, she rarely needs the specialized talents of a scenery artist. And she never has to buy more paint or clean a brush!

ANIMATING SOUND

When Mickey Mouse moves and speaks, we accept Mickey as a live character. But if one footstep sounds before his foot hits the ground, or his mouth closes before we hear him stop speaking, the illusion of life is shattered. Synchronizing a character's movements perfectly with the soundtrack is crucial to the magic of animation.

After the director decides how he wants a scene timed in traditional animation, he hands the script to the voice-over artist and sound effects people, who record the soundtrack. Then the soundreader painstakingly listens to the soundtrack at slow speed and writes down when every vowel, consonant, footstep and sound effect occurs on an "exposure sheet." The exposure sheet goes to the animator, who must match the character's movement exactly to where each pre-recorded sound will occur.

Heidi can't afford to hire a sound reader, but her Amiga handles the job quite beautifully. First, she digitizes the sound into the Amiga using Perfect Sound. Then she loads the IFF sound sample into Cel Animator where she can play it back and also create her own exposure sheet. "When I listened to the sound readers at Disney, I didn't think I could ever learn to animate to sound. Because when they crank a 35mm sound track slowly over a tape head, it sounds very muddy and garbled. I didn't even know what I was listening to. But once I load a digitized sound into the Amiga, Cel Animator breaks that sound into discrete chunks and plays them back at regular speed. So even though the sound is chopped up, it's very clear.

"Suppose I'm listening to 'hello' which plays over five frames; as I step through the frames, I'll hear 'heh..eh..eh..lo..o.' There's an on-screen gadget that will accept three characters, so I can type in the phoneme of the sound and see that on screen. Then I can save the sequence with its phoneme titles as an exposure file, which I can also print out as an exposure sheet.

"I gave a standard Disney exposure sheet to Cel Animator's programmer, Jim Donaldson, and he patterned the printout after the Disney sheet, but with a couple of new features added. This Amiga exposure sheet is more convenient and detailed than an industry standard exposure sheet. It's really excellent to work with."

Talent speaks for itself, and John Kafka of Murakami Wolf Swenson was delighted when Heidi was demonstrating her work at an LA Amiga Users Group (LAAUG) meeting one night. The Disney special for Mickey's 60th Birthday was running behind schedule, so he hired her as an animation subcontractor right on the spot. After nine years' ab-

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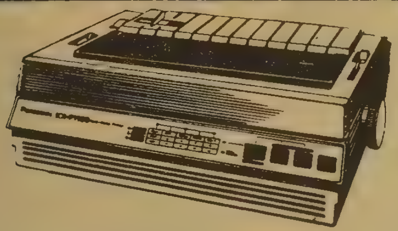

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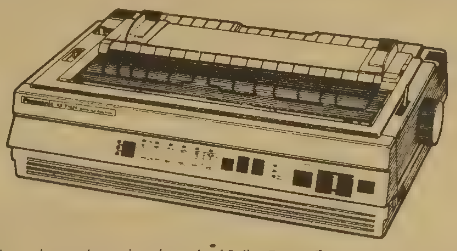

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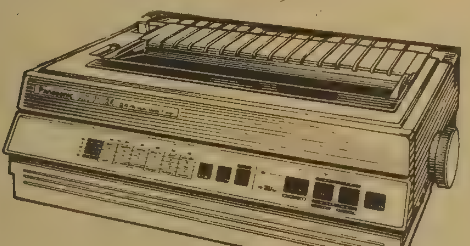

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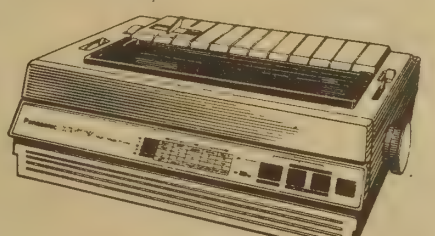

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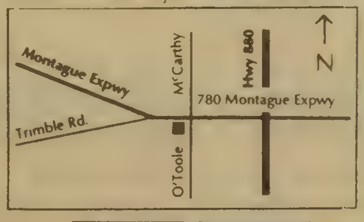

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sence, she was working for Disney again, but this time from the comfort of her own home.

Disney Television Studios sent Heidi a videotape of the live actors and soundtrack, an exposure sheet of the scenes and the tracing paper showing the rough outlines of where the live actors would be, known in the trade as a rotoscope. Although this exposure sheet and rough rotoscope helped speed things up for Heidi, what the Disney crew didn't know was that she could have done them all herself just using the videotape and her Amiga set- up.

Segment Director Sam Cornell was pleasantly surprised when Heidi showed up at the Disney television studios with a finished line-drawn animation on videotape—Mickey dancing in animated glee with costars Cheech Marin and Phylicia Rashad. But he was astounded to hear the sound coming off the tape in perfect synchronization. The expensive pencil test system they use at Disney just can't do that!

Says Heidi, "He wanted to know how I synched the sound to my rough drawings, but when I started to explain about the computer, the digitizer, and the software, he just looked at me like I was a Martian!"

After the initial shock of seeing Heidi's first pencil test with synched sound, Cornell enjoyed seeing each of her pencil tests. But as the insane deadline crunch of the last week of production set in, he began to doubt there was time for even these essentials and he asked her to just turn in her drawings ASAP, since the rest of her work looked good. The perfectionist in Heidi rebelled; she had to see if her work looked right. "I shot a test before I left home just for myself," she recalls. "That way, if something wasn't as good as I wanted it to be, I could change it before I turned it in."

In one month, Heidi produced over 50 feet of animation, for a Disney paycheck of over $5,000. She contrasts that with typical studio footage: "You were a star performer if you did ten feet a week at Disney or Bluth. I remember Ollie Johnson was at the top of the footage list on *The Rescuers*, and he had a weekly average of eight to nine feet. And I did 12 feet on my own! Not only did I get more work done than I did when I was under the pressure of the studio, but I was happier and did better work."

Heidi turned in her work for Disney on onionskin as a first step in the process of final output to celluloid. But for corporate clients like HOH Water Technologies, Heidi found that she could transfer final output directly to video with the 4096 colors of the Amiga's interlaced HAM mode.

Heidi's fully expanded 9Mb Amiga can play back up to a full 96 frames of 320 x 400 resolution in 4096 colors at ten frames a second, which amounts to 9.6 seconds of gorgeous animation. "Most discrete scenes are no longer than ten seconds," she says, "so with nine megabytes I can animate just about anything I'd ever need to."

The Amiga has given Heidi the freedom to leave the studio world and work at her placid home in the mountains of Ojai with her three dogs, two horses, one adoring husband and a cat named Punkin. True to her storybook name, Heidi and her Commodore Amiga seem destined to live happily ever after. ■

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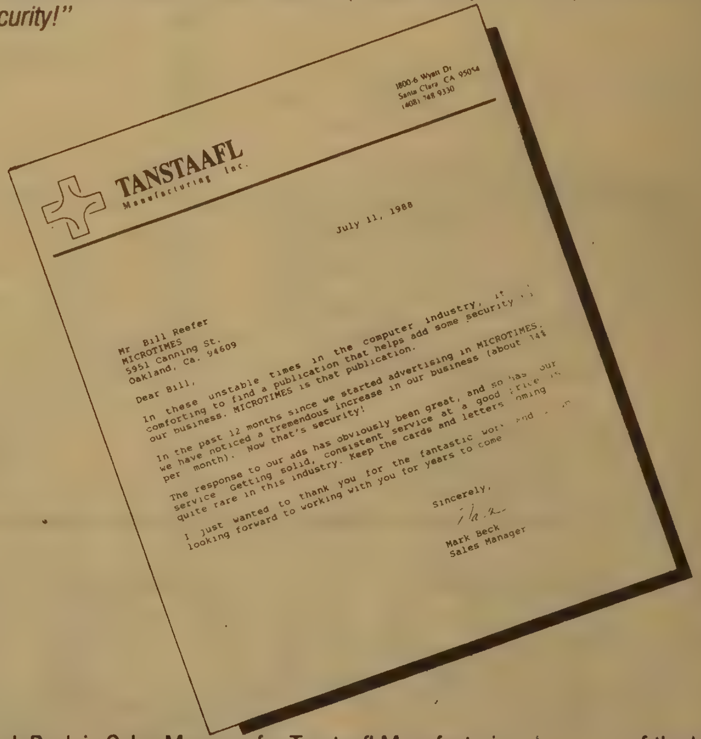

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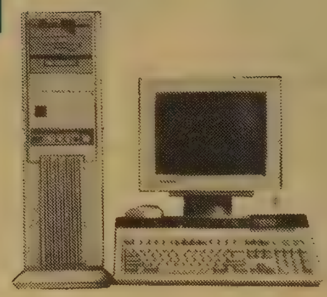

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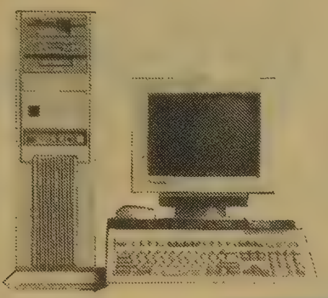

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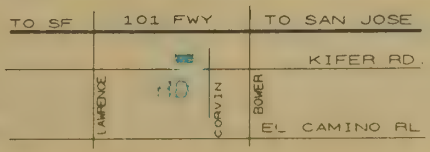

The Price Is Right

Free-, Share-, And Demoware On The ST

BY DAVID HAWKINS

ATARI ST

There are a number of programs that you can get without going through a dealer. Some of them you don't even have to pay for. Others you can get, try, and then pay for if you like them. Some are demonstration versions—they lack some features of the full-blown version, but they allow you to see how the program works.

THE DOWN SIDE

It's nice to get a program with a minimal investment, but there are some risks. The program probably comes with no guarantee that it will work. Depending on where you get it, there might be a greater risk of getting a virus on your disks. Often you get no manual, or a manual that is useless. This means you have to put a certain amount of work into just understanding the program and may never figure out how to get to certain features that you'd like to use. But with that caveat in mind, there's also a lot of value out there.

WHERE TO GET THESE PROGRAMS

One of the most common sources is an Atari BBS (bulletin board system). There are listings at the back of *MicroTimes* of systems you can use your computer and modem to call. A lot of these carry programs. The sysop will often check the program to see if it carries a virus.

Another good source is a local users group. These are also listed in the back of *MicroTimes.* If there's a local group, it might be a good idea to drop in on a meeting. Not only can you get disks of software there, but you can talk to people who use the programs and get some idea of whether the program is what you need. A number of groups pride themselves on keeping the latest version of popular public domain software available.

Copyright © 1990 by David Hawkins. All rights reserved. David Hawkins is the host of the Atari conference on The WELL (415/332-6106); send email to dhawk. He has one of the first Atari ST 1040s sold in San Francisco. Both monitors, an Okimate 20 color printer, and disks are all over the room.

WHICH ONES TO GET?

Just about any kind of program is available. Two of the main programs I use are public domain. First is an Atari version of a program that is called "Pyro" on the Macintosh. It's a screen-saver that blanks the screen and then sends up rocket bursts on the screen. The nice thing about the Atari version is that it is in color. Looks great.

The other program is called vkiller. It tries to catch viruses. You can install it to run in the background; when it sees a new disk that looks like it might be carrying a virus, it beeps and flashes the screen. You can also use it to examine disks that you suspect might be carrying a virus.

GEMINI

One great program is Gemini. It's a desktop replacement which works a little differently from the normal Atari setup. You can move files and programs out onto the desktop. It has a built-in UNIX-like shell that you can get to through one window. You can drag a file to a program icon and the program will startup on that file.

There are just a couple of problems with Gemini. One is that you need to be running TOS 1.4, the upgraded ROMs. Also, it was written in Germany and the most recent version is all in German—both in the program itself and in the documentation. Translations are in progress.

EDITORS

A huge editor called Emacs has been ported to the ST. This version is called GNU-Emacs. If you have used Emacs before, this would probably be the version you want to get.

There's also a version of vi for the Atari. It's called Stevie. It doesn't have all the commands of the normal UNIX version of vi, but will do the trick for basic editing.

NETHACK

A large game called Hack is available in a version called Nethack. The graphics are crude compared to most ST games. It uses basic ASCII characters to represent things on the screen. It's an "explore the dungeon-get the loot-kill monsters" type of game. It can be addictive and is pretty challenging.

TELECOMMUNICATIONS

The main telecomm program I've seen on the public domain lists is Uniterm. I've used it just a little, partly because the documentation was so skimpy. I've never found a full manual on it, and I really need one in order to do much with this program.

OTHERS

This is just a start. Some users groups will have hundreds of programs available. Some of these are real gems, while others might not be worth the cost of the disk. But if you enjoy bargain hunting, searching through public domain software might be a lot of fun! ■

> **At the user group, you can talk to people who use the programs and get some idea of whether a particular disk is what you need. Many groups pride themselves on keeping the latest version of popular public domain software available.**

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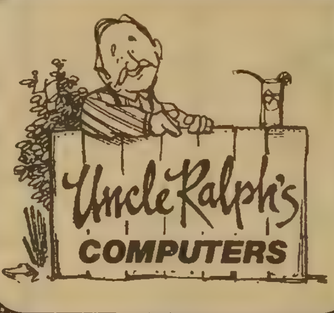

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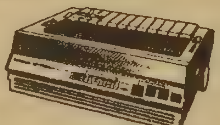

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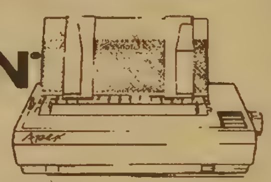

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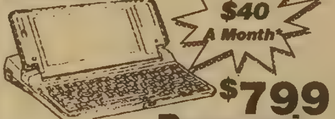

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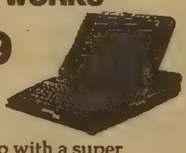

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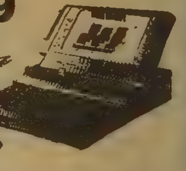

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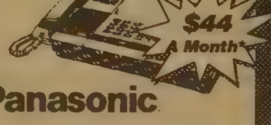

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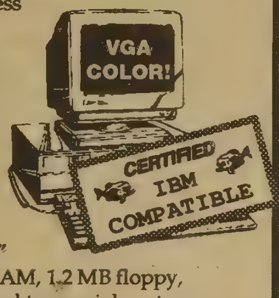

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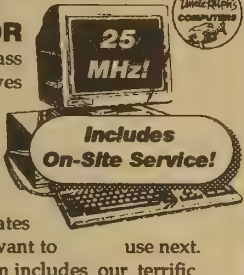
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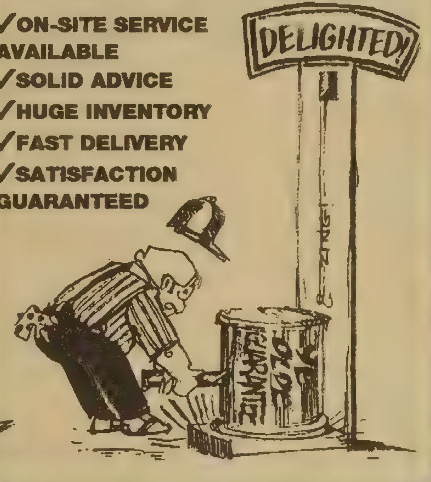

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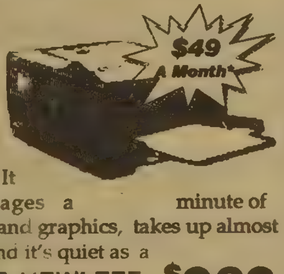

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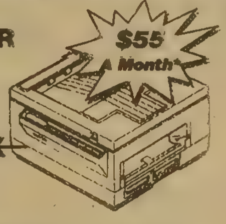

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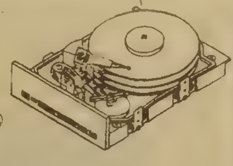

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Report From The Trade Show Circuit, And Other Adventures

BY DAVID MORGENSTERN

BMUG

Have I been a traveling boy this past month—up and down the California coast, pounding the pavement at computer fairs, watching my beloved Giants (or "the Bums" when they lose a game) play ball, and helping move the BMUG office two blocks to a more spacious home—an old furniture rental showroom.

Every 20 feet the wall color changes from blue to green, pink and other indescribably awful colors. But such paltry environmental factors matter little to hardcore Macintosh lovers, since they're too busy looking at their screen to care about the decorations.

APPLE PI Á LA MODE

If I only had a share of stock for every Apple corporate reorganization, I might be able to afford the payments on my new Mac IIci. The hardware/software bundle is alive and well in Cupertino—a new Macintosh and accompanying new management.

There has been too much happening down at Apple to give any definitive picture of the circus. Everyone wants the Word to come down the mountainside, written in stone, about what Apple is going to do. Perhaps there's an unconscious wish for a paternal pat on the head and an assurance that everything's going to be all right.

Here are some random scoops of hot Apple sauce:

- Some of the hardest-hit groups in the recent purge were involved in testing and diagnostics. This relates to Morgenstern's First Law of Software Development, which I discovered while investigating the 1987 Microsoft Word 3.0 fiasco: *Programming hates Marketing, Marketing hates Programming. Both hate Testing.* Testing is not very sexy in programming circles, where it has a second- or third-rate reputation. No one likes the bearer of bad tidings, especially a bug report.

Testing comes in many forms, in diagnostic products for development and in the pounding, use-type bug-catching of quality assurance. The now-defunct Quality Assurance group at Apple was run out of Marketing, a brainchild of former Apple USA president Allan Loren. He didn't trust the testing done by Research and Development, run by Jean-Louis Gassée.

R & D testing doesn't really look thoroughly into hardware and software compatibility with Apple and third-party products—the very things that marketing representatives want to know when answering questions in Customer Service, and out in the field. Unfortunately, much of the testing done in Quality Assurance turned out to be redundant. The lean, mean, restructured Apple will not tolerate dueling testers.

Testing should really be a separate department, with its own budget and mission. Software engineers and marketing reps need the checks of an empowered testing process. Other industry giants, like Hewlett-Packard, have found this way to avoid the political battles that result in poorly tested products finding their way out the door.

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- Lower-level workers felt that some of the firings and cut programs resulted from middle managers not correctly presenting their department's accomplishments to those further up the ladder. One person who witnessed the destruction of his department criticized the boss, saying he didn't know how to "play the game and protect his employees."

A number of workers believed the layoff was totally haphazard, with no rhyme or reason. Some of the best people were laid off, while other mediocre ones remained.

Many employees at Apple feel that the atmosphere at Cupertino is still fluid and "political." Another round of layoffs is predicted, perhaps in the summer, even though the recent sales figures are strong. Apple has a history of let's-try-this-for-a-while, and those who think the company has set the corporate composition in aspic are eating oranges.

- John Sculley's skills in corporate gamesmanship haven't suffered during his Apple tenure. He called a surprise meeting with Apple employees several days before the February stockholders' meeting, and had it piped into corporate offices. Big Brother laid out his plans for restructuring and new product directions. He also took a lot of heat from angry workers—many of whom own Apple stock, dwindling in value by the day.

When the general stockholder meeting rolled around, the expected hordes of workers wanting to air dirty laundry in public were back behind their desks and workbenches. The meeting was quieter than a Mac Plus at midnight. Does this mean that a meeting a day keeps the Apple away?

Apple's confidential marketing studies reportedly show that the low-cost Mac will not be a big success. Reportedly the real market for Macs is small businesses that need flexible and powerful computers.

- The continuing debate in and out of Apple on the low-cost Macintosh and the future of the Apple II line of computers continues. Sculley said that Apple is committed to the production of a low-cost Mac—but how low can he go? Compared to an import dumped PC clone, almost anything looks expensive.

Apple's confidential marketing studies reportedly show that the low-cost Mac will *not* be a big success. Reportedly the real market for Macs is small businesses that need flexible and powerful computers. They would not purchase the low-cost models. Productivity in the

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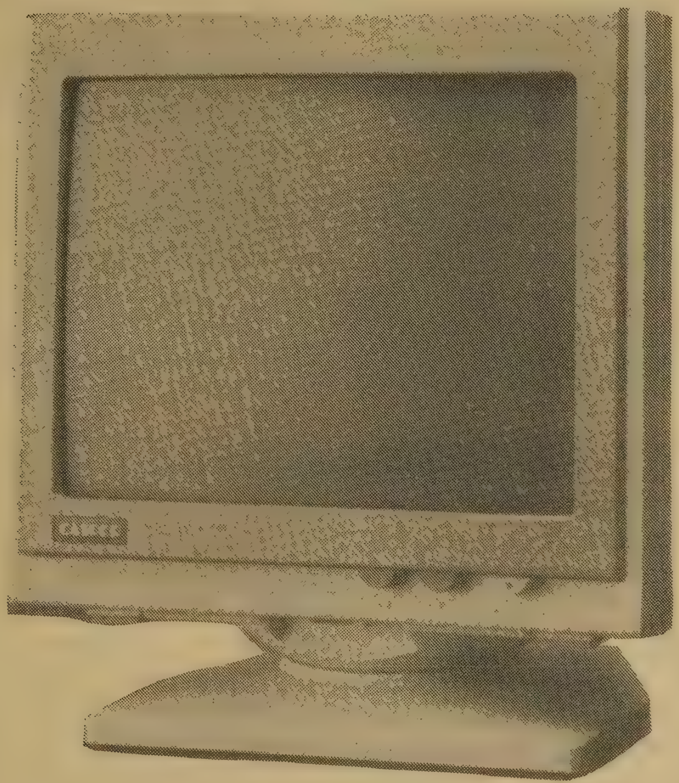

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upcoming System 7.0 era will require a 68030 chip, which is still relatively expensive (and might go higher if Motorola and Hitachi can't come to terms).

The education and multimedia markets seem to want something dirt cheap—something that Apple can't, or won't provide. Perhaps Apple will lower the profit margins on the low-end machines to improve or maintain market share, although they haven't bothered to do this in these past couple of years. The cash from our wallets has fueled the development of the high-end Mac technology and the high-end automotive perks of Apple executives.

Sculley recently visited his old high school and gave a computer to his old shop teacher. He walked to the trunk of his car and pulled out an Apple II. What they've always wanted—right?

WEST COAST COMPUTER WRESTLEMANIA XV

How low can a computer show go? For a while, I felt that the floor of the San Francisco Civic Auditorium was a quantum level of Dante's Inferno, but that was just the PG-rated prelude. We sank deeper into the depths of silicon slime. The 15th West Coast Computer Faire, the marathon-running micro exposition, has lost its shoes.

This has never been a Macintosh show, but this year it was hard to tell what kind of show it was. It resembled a fancy version of a computer swap meet, or an indoor flea market. Here are some of the highlights:

- The show security escorted a consultant from Ramses Systems off the floor. He had paid for a ticket to enter the show as an attendee, not as an exhibitor. He was dressed in a ratty Star Trek outfit, crystal necklace, and held a large staff feathered with his business cards. He mumbled that he wasn't allowed to distribute his cards, but he hoped people would pull them off his staff. He hoped that the BMUG booth would grant him computer asylum. Nyet, Mister Spock!
- PowerSource Computer Systems, Inc. had a show-stopper in a PC board that ran Nintendo games. The board and 40 games on floppies only cost $300. For an additional fee they offered a board that could download Nintendo cartridges to run on the game board. We were surprised that Nintendo legal ninjas didn't make it to the show to remind PowerSource that the Nintendo software and hardware are protected. Crack! Pow! Crunch!

> **A fantastic product was shown at the San Francisco Video Expo—the Avid/1 Media Composer. It's a video editing system that uses a Mac II, two color monitors, 600Mb hard disk drive, video and audio tape controllers and the kitchen sink.**

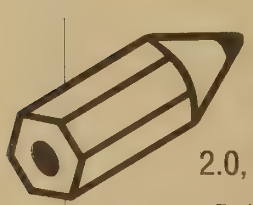
- Aströ Systems showed the Traveller™ Drive (British spelling—classy, huh?), an unusual removable media drive. The drive is a regular Quantum SCSI hard disk housed in a fancy aerodynamically designed molded plastic shell. This fits into a docking port that connects to the computer and external power supply. The Traveller concept is the opposite of the popular Syquest-based drives, which have cheap plastic cartridges for the media and a drive unit that contains the motor and power. MegaDrive Systems puts out a similar, but less science-fictionish looking drive, the Disk Pack.

I couldn't figure Aströ's angle, since there are a number of small and portable conventional hard drives out on the market. Finally a rep said that the military was interested in the drive—now I understand!

- There were three computer jewelry vendors at the show. The Marvelous Melissa claimed to have been creating jewelry with computer parts for years, and she had the most interesting pieces—and prices. Transistor Sister had clocks made out of blown motherboards. Beta Terraflaps created a flap by sharing their booth with a couple of voluptuous strippers beta testing the product by bumping and grinding. Their flashy and fleshy business cards read, "S.pecial O.ccasions S.ervices, Bachelor Parties, Stripping Telegrams, Any Occasions." Step right up ladies and gents! See the beautiful Leilani in the torrid Dance of 386 Lust!
- Safe Computing of Needham, Mass, showed the Safe Monitor, which emits no radiation harmful to the user. There are studies that show immunological problems for test tubes (and perhaps people) that sit in front of Video Display Terminals (or television sets). Cheaper shielded screens do not address concerns about low frequency magnetic radiation, which is blocked by the Safe Monitor.

They also sell a device that measures electromagnetic radiation, the Safe Meter. The Mac Portable in the BMUG booth passed with flying colors—the Mac SE could have done better. Call Safe Computing (800/222-3003) if you have further questions.

A fantastic product was shown at the San Francisco Video Expo—



Shareware Spotlight

A new game has come along that everyone can play—Glider 2.0, by John Calhoun. A paper airplane flies along through different rooms. Points are gained by avoiding dangers and touching "friendly" objects, like alarm clocks—don't ask me why.

The "Rules of Physics" in the game are 1) Paper airplanes have no engines, and consequently have a fondness for the carpet; 2) Floor vents easily lift paper airplanes; 3) Lit candles burn paper; and 4) paper doesn't conduct electricity well. The airplanes have the ability to move backwards and forwards to catch the drafts from the floor vents. The action of the gliders is very real and a wonderful simulation.

The game is written for a Mac SE, or Plus, but has a slower setting for players using a Mac II—a very good feature.

The BMUG Disk Library is being revised, so if you order programs from BMUG, please request them by name, instead of by disk. ($4 each disk)

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the Avid/1 Media Composer. It's a video editing system that uses a Mac II, two color monitors, 600Mb hard disk drive, video and audio tape controllers and the kitchen sink. The system captures the video from the tape to disk, where it can be easily edited. Then it can assemble a broadcast-quality master, or create a written edit-decision list. This doesn't come cheap—around $50,000-75,000. A consumer version is supposedly coming down the ether from Nolan Bushnell and the Aapps people. I think you'll be able to tell the difference between butter and margarine.

UPCOMING EVENTS

May 24	RasterOps (monitors), Lifetree Software *Correct Grammar.*
May 31	WordPerfect, Cal Comp WIZ tablet.
June 6	SF BMUG West Meeting at Exploratorium. Ashton-Tate *Full Impact.*
June 7	Sigma Design monitors, PowerUp.
June 14	Traveling Software *LapLink*, Prescience *Theorist.*
June 21	Ron Harwin (ergonomics), Ensign *Point of Sale.*
June 27	SF BMUG West Meeting at Exploratorium. TBA
June 28	Aura Systems *Scuzzy Graph II*, Adaptec Modem.

Call the BMUG Office for information about BMUG West, our San Francisco meeting.

JUST SAY NO!

There's the Old Country expression about getting blood from a turnip—the Silicon Valley equivalent is getting a refund from a computer manufacturer. Mary Pasternik, a local BMUG member, provided everyone in the BMUG office with a lesson in consumerism with her dealings with Jasmine Computer.

Last July Mary brought a Jasmine MegaDrive into the shop to be repaired. Weeks later it was discovered to have a broken controller—it was running slower than a 400K floppy. Instead of fixing the drive for $400, she was offered a new DirectDrive 20 for an additional $76, with a year warranty and a 30-day no-questions-asked refund. A good deal, Mary thought, but the audience knew better. They could see the monster lurking behind the boot blocks.

A week later the drive started acting up and Mary began a four month ordeal of trying to return the "easily returnable" drive. Since she got little help from Jasmine, she got in touch with BMUG for some straight technical advice. But not even the laying of hands by Steve Costa, our Tech Guru, would bring this drive from the scrap heap.

After dozens of calls, threats, messages, and service requests, Mary got a refund check in February. She called the bank to make sure that the check was good. The bank said that that flavor of account has a guarantee for payment—stop worrying already, it's impossible for this kind of check to bounce.

Two weeks later the world stopped in its orbit and the check bounced off Mary's desk and stuck to the ceiling. The good-as-gold

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account was now overdrawn, had "unverifiable signatures," and was closed.

Jasmine claimed there was a problem with the bank. Mary responded that the problem was with Jasmine's conduct of business. She wanted a cashier's check immediately, or she and the District Attorney were going to camp out on the hood of the CFO's fancy import.

Two days later, Mary got her non-rubberized check. Ten days later Jasmine declared Chapter 11 bankruptcy.

Here are a few consumer tips from the Jasmine Saga:

• Keep accurate and detailed records of every contact with a company. This should include the name, date and time of the conversation. It's not enough to say you talked to someone in Technical Support—the paper trail and the verbal trail need careful documentation.

• Be an informed consumer. The more the user knows about what the problem may, or may not be, the quicker the route through the Tech Support maze. This will also cut down on repetitive time-wasting "easy" non-solutions. Steve Costa says, "For real technical support to work, people need to be informed about their machines. It's difficult to get to the bottom of problems when users don't know click, drag, or pull."

• Stand up for your rights and decide what you want. If you want a refund, keep working for a refund. Most consumers back down quickly if offered a "good deal." Mary said, "I won't stand for bad business practices. I got to the nitty-gritty, because I couldn't do my job with faulty equipment." ■

WHAT IS BMUG?

BMUG is a non-profit educational corporation dedicated to collecting, evaluating and disseminating information about computers using a graphical interface. For a while that meant the Apple Macintosh, but now includes other makes, models and operating systems, including the NeXT best thing.

Like any growing organization, it is many different things to its 10,000 international membership. BMUG supports many Special Interest Groups (SIGs), has an eight-line Bulletin Board System (BBS), free HelpLine, software library, weekly meetings, publications, and much more. BMUG also puts out a semi-annual 400+ page book that we call our "newsletter."

Our motto continues to be: *We're in the business of giving away information.*

Come and join in the dialogue at the BMUG main meeting every Thursday evening, 6 to 9 (or whenever we finish), in the Physical Sciences Lecture Hall on the UC campus. BMUG West is a meeting held monthly in the Exploratorium, San Francisco's science museum.

The BMUG HelpLine, (415)849-HELP, and our fax number, (415)849-9026, provide technical assistance and telephonic hand-holding during business hours (11:00am-5:30pm). If your question can't be answered on the spot, we try to get you in touch with someone that can help. Of course, not every problem can have a happy ending—but we try.

BMUG has one of the most up-to-date, comprehensive software libraries around with 400+ double-sided disks filled with the latest versions of public domain or shareware programs and HyperCard stacks. New disks are unveiled almost every week at the Thursday general meeting. BMUG also brings you the *PD ROM™ 2.0*, our entire library and more on CD-ROM—according to Apple, it's the best selling CD-ROM!

Our BBS offers many of the latest versions of files in our software library, as well as news, private mail, rumors, etc. The BMUG BBS is part of the worldwide EchoMac Network on FIDOnet (161/444); by calling a local FIDOnet BBS in your area, you would then be able to get in touch with us wherever you are as well as send mail to users everywhere! BMUG is now a part of the international USENET network (apple!bmug!user.name@sun.com) or (user.name@BMUG.FIDONET.ORG). With our multi-line capability you are now able to have access to BMUG almost 24 hours a day. It's easy to use, fun, and a great resource.

To get some further information about BMUG please write to: BMUG, 1442A Walnut Street #62, Berkeley, CA 94709. If you prefer to phone our business office, call (415)549-BMUG, or FAX (415)849-9026.

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	IBM SIMM	6450603	140.00
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COMPAQ Model	MEMORY Added	COMPAQ Part #	AMT Price
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PREMIUM 386/25sx	1MB SIMM	500718-001	145.00
PREMIUM 386/33	1MB SIMM	500718-002	155.00

ZENITH Model	MEMORY Added	AMT Price
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The Wait Is Over

The Next Generation Of Amigas

BY MATTHEW LEEDS

AMIGA

On April 24th, Commodore Business Machines rolled out the latest addition to the Amiga product line, the Amiga 3000. They also introduced a new version of AmigaDOS and a new support program, brought the Amiga 500 into the mass market, introduced an interactive multimedia authoring program, and previewed several new peripherals. What you are about to read is an overview of what was contained in that rollout, based on information provided prior to the event.

THE AMIGA 3000

The A3000 is a 68030-based machine, with either a 16MHz or 25MHz CPU, backed up with a 68881 or 68882 math co-processor. All A3000's will ship with a hard disk drive, either a 40Mb or 100Mb version. The bus is now a full 32 bits, with hard disk support built into the motherboard. The equivalent of a flicker fixer is also built into the system, offering flicker-free displays in all modes.

The physical design of the A3000 is much different from that of the A2000. It offers a lower profile and has a smaller footprint. The power switch has been moved to the front, and the keyboard and mouse ports have been moved to the right side. The ports at the back of the machine have been changed, with the addition of a VGA-equivalent video port and a SCSI port.

Inside the machine there have also been changes. The expansion slots are now parallel to the top of the machine instead of perpendicular, and they have been reduced in number to four, with the video slot in-line with one of the expansion slots and two Amiga-bus slots in-line with AT bus slots. A CPU expansion connector with processor takeover capability is also provided for 68040 or other upgrades. The new Enhanced Chip Set (ECS) is installed, along with a new Agnus that supports up to 2Mb of chip RAM. The motherboard has room for 4Mb of 256X4 RAM chips or 16Mb of 1X4 RAM chips.

Copyright © 1990. All rights reserved. Matthew Leeds has been involved in the high tech field since he blew up his bedroom playing with a children's chemistry kit. He has been using Commodore computers since 1982 and has a strong interest in photography, video, graphics, and related fields.

The new 32-bit bus provides extremely fast access to chip and fast RAM, system ROM, the SCSI DMA controller, and, through a new expansion card format (Zorro III), the expansion bus slots. The new ECS supports several new display modes including a 1280-pixel-wide SuperHires mode.

In addition to the new ECS, several new gate arrays are used. Enhanced versions of Gary and Buster provide address decoding and DMA arbitration respectively. The Super DMAC is the DMA controller for the SCSI bus interface, Ramsey provides control over the on-board fast RAM, and Amber provides the control logic for the display enhancer.

The new Zorro III expansion card standard provides backward compatibility with Zorro II cards while supplying 32-bit address and data path access to new expansion devices. This allows for the creation of faster and more powerful peripherals and eliminates the 8Mb expansion space limit. Addressing is now in the multi-gigabyte range, which should suffice for the next few years.

The 5.25" drive expansion bay has been eliminated. A total of three 3.5" devices can be installed in an A3000. Since they all come with a single floppy and a single hard drive, this translates into a single vacant drive bay.

I've had the opportunity to use an A3000 for a few days. My first impression is that it is fast—very fast. My second impression is that Commodore is going to sell a lot of A3000's, and that the A2500/30 is now an obsolete machine. Here's why: the 16MHz A3000 with 40Mb hard drive has a list price of $3,299, the 25MHz version with the same drive is priced at $3,995. An A2500/30 with a 40Mb hard drive is priced at $4,699. Which would you buy?

The A3000 ships with the newest version of AmigaDOS, V2.0. There are many changes in this latest version, including new standard colors, massive changes to Workbench, AREXX as standard, a completely revamped Preferences, and new commands. In the coming months, I'll go into greater detail on the A3000 and V2.0 of AmigaDOS.

A3000 owners will be able to run either V2.0 or V1.3 on their machines. V2.0 ROMs will be installed, but by holding down both mouse buttons while powering up the machine, the user can access a special menu that lets a file-based version of V1.3 Kickstart be loaded from the hard disk. Since the 68030 has a built-in MMU, once V1.3 Kickstart has loaded, its memory can be protected and V1.3 Workbench can then be loaded. This will come in handy, as some programs may need to be revised to function correctly under V2.0.

> **Commodore is positioning the Amiga computer as the premier multimedia platform, and will be introducing additional new products to support that position.**

A2000 owners will be able to upgrade to V2.0. The price will be around $100 plus dealer installation charges, but a discounted upgrade plan will be in effect for 60 days once the upgrade kits become available. Commodore does not plan to offer an upgrade path for A500 owners. It is also not clear at this point whether Commodore will provide some means of switching between V1.3 and V2.0 for A2000 owners.

OTHER ANNOUNCEMENTS

To complement the A3000, Commodore announced the A1950, a multisync monitor that supports the various display modes of the A3000. Pricing was not available at press time.

All Amiga products and peripherals will now have a one-year parts and labor warranty, retroactive to the first of the year.

The A500 is being offered in two new packages. The first, targeted at the consumer mass

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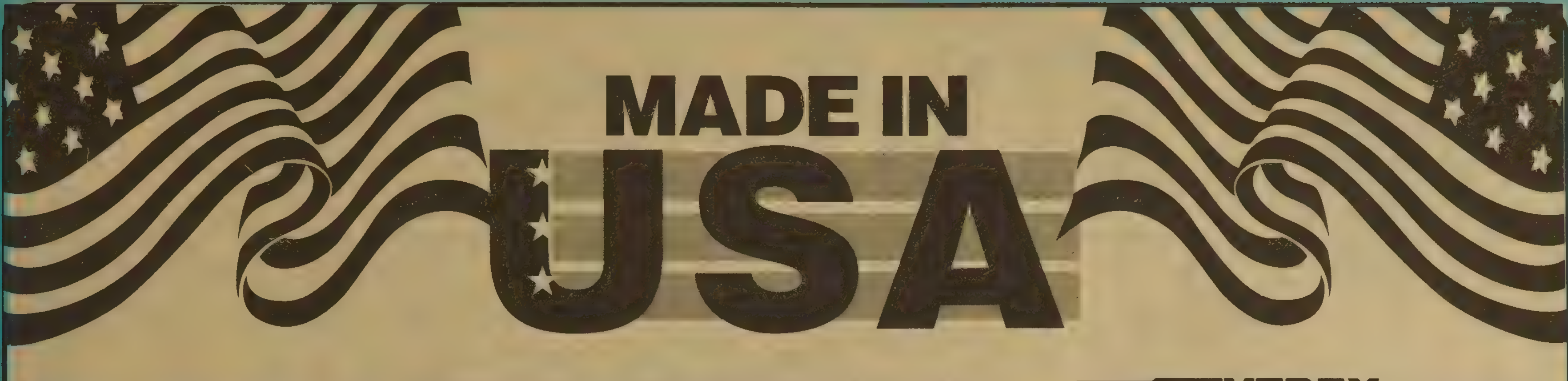

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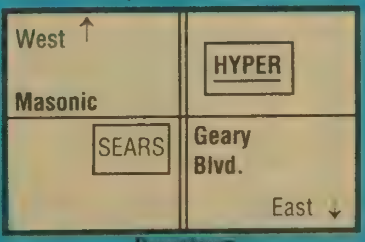

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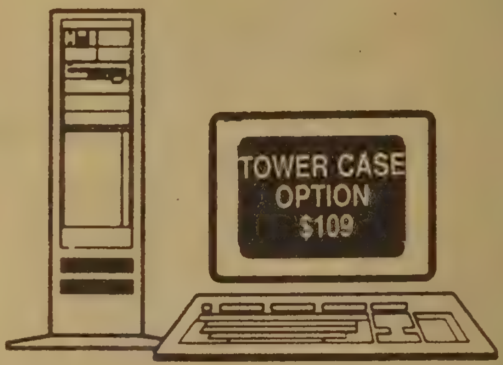

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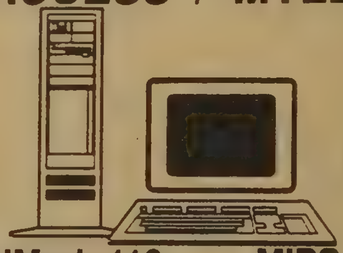

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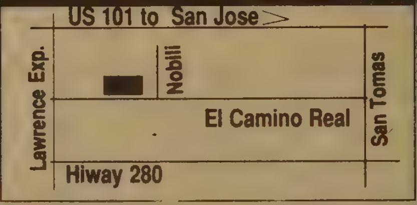

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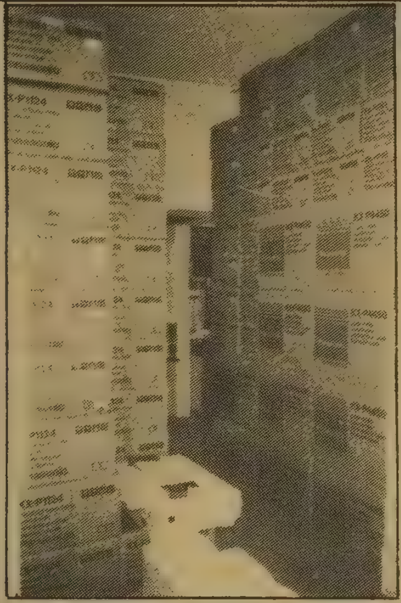

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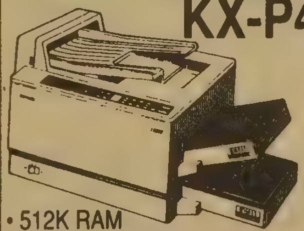

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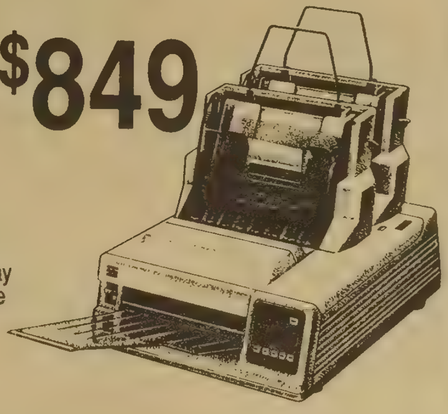

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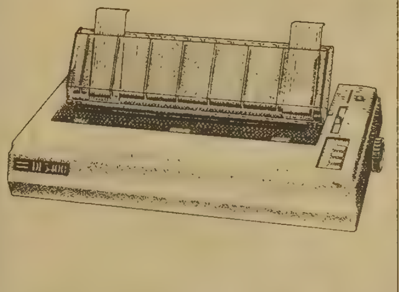

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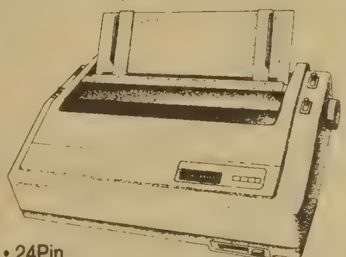

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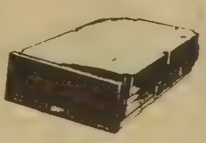

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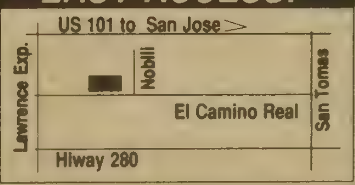

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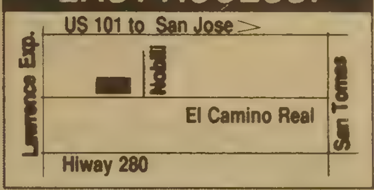

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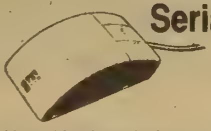

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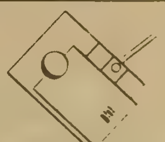

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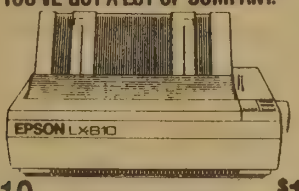

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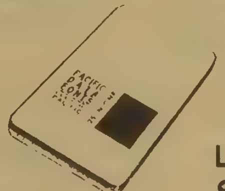

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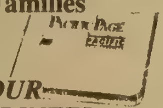

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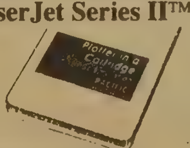

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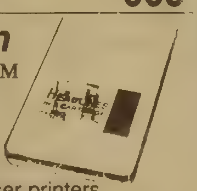

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continued from page 92

market, will include a 512K A500, Textcraft Plus, Tetris, Where in the World Is Carmen Sandiego?, Microsoft BASIC, and an RF/composite encoder. The second, targeted at the professional market (read computer dealers), will include a 1Mb A500 with Commodore's new multimedia authoring system, AmigaVision. Both versions will have a suggested list price of $799.

A new support program is also included with the A500. An 800 number will be provided with the machines for customer support. Should the support personnel decide that the machine needs servicing, they will supply the customer with a return authorization number and shipping address. The customer will write this information on a mailing label, stick the label on the box the A500 came in, and the next day Federal Express will pick up the defective A500. As soon as it is repaired, Federal Express will ship it back; Commodore pays the shipping both ways. This is a radical approach to customer support, and it speaks very highly of Commodore's faith in the quality of its manufacturing.

> **Commodore is positioning the Amiga computer as the premier multimedia platform, and will be introducing additional new products to support that position.**

The version of Microsoft BASIC included with the consumer A500 is an upgrade from the current version. Microsoft has fixed the bugs that have plagued its current release, and in fact Commodore will market the new version as a standalone product for those customers who do not receive it bundled with their machines (A500 Pro, A2000, A3000).

BASIC is being replaced with AmigaVision, a multimedia iconic authoring system that Commodore sees as the natural companion to the Amiga. AmigaVision takes full advantage of all of the Amiga's features, and supports text, graphics, animations, music and sound, laser disc players, and touch screens. Some may compare AmigaVision to HyperCard, but they are very different types of products.

Over the next few months I'll take a look at the A3000, AmigaDOS V2.0, and AmigaVision in greater detail. Commodore is positioning the Amiga computer as the premier multimedia platform, and will be introducing additional new products to support that position. Commodore is kicking off a ten-week advertising campaign to let the world know the Amiga is here to stay. ■

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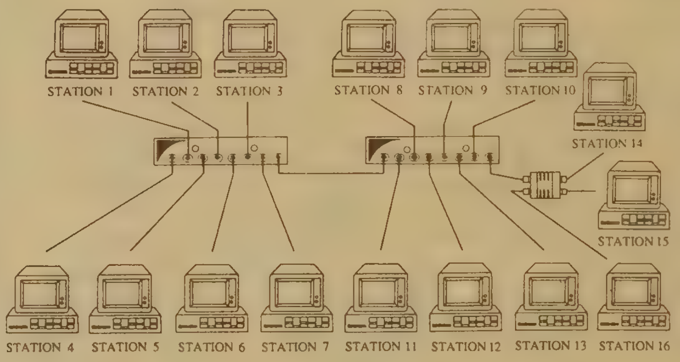

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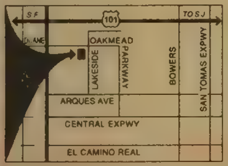

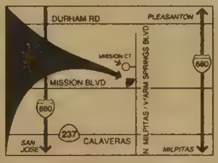

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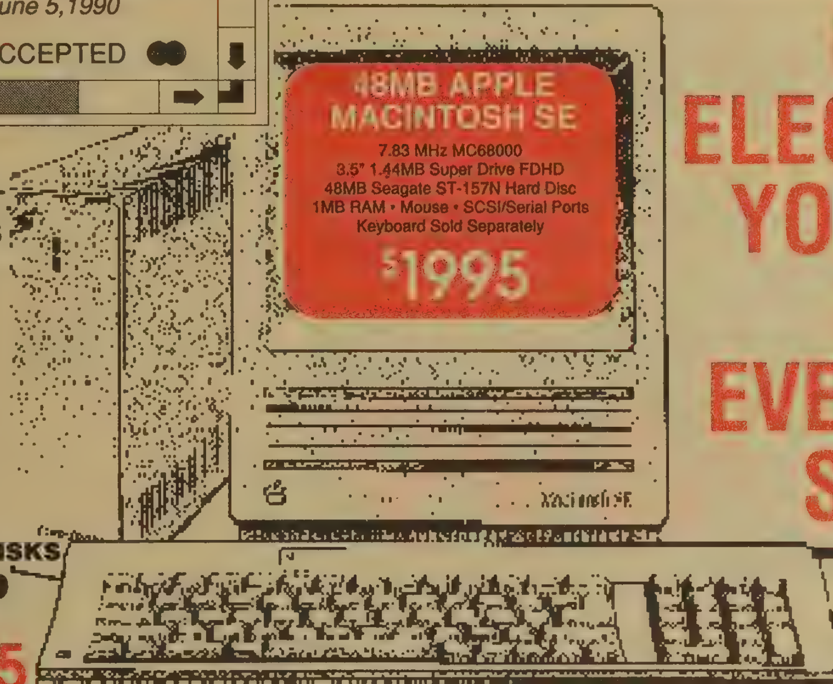

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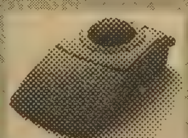

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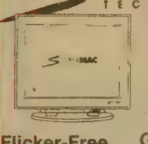

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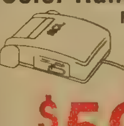

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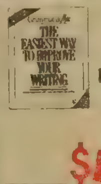

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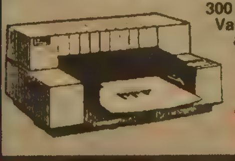

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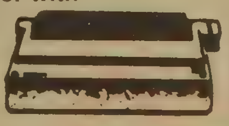

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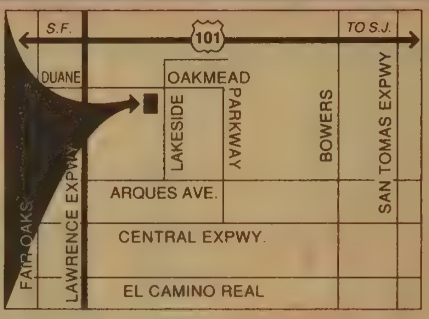

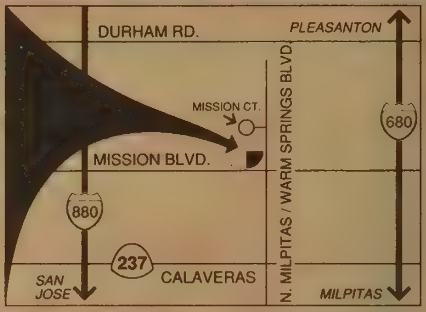

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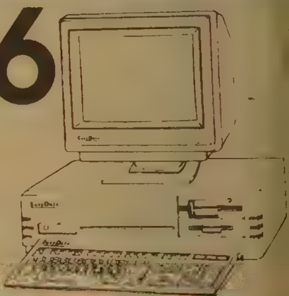

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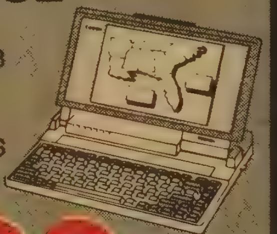

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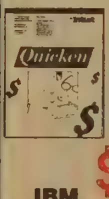

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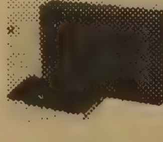

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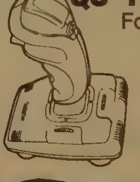

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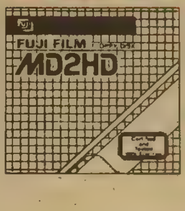

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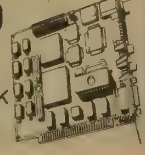

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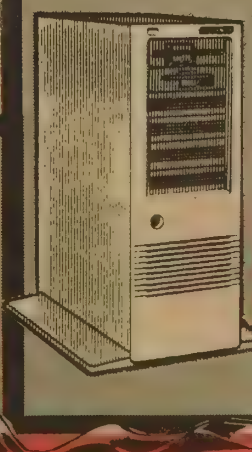

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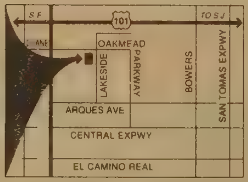

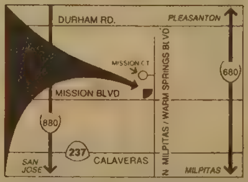

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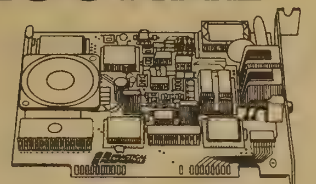

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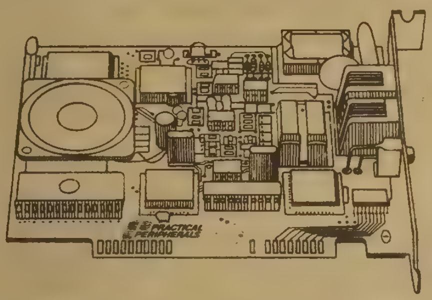

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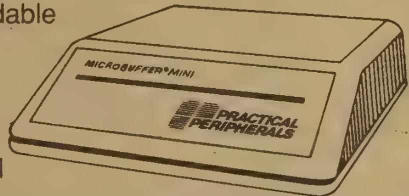

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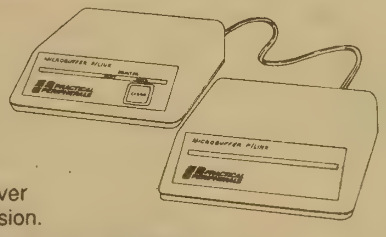

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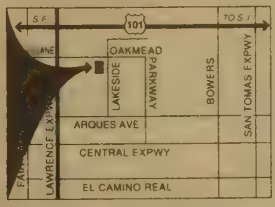

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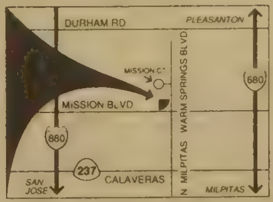

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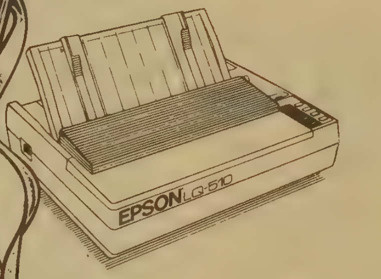

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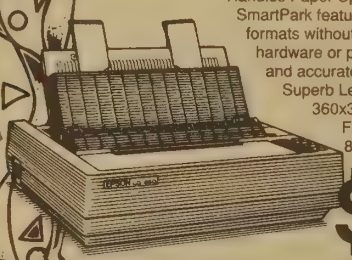

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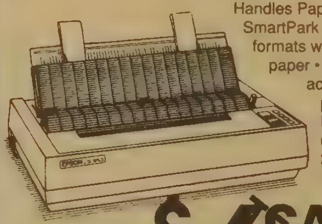

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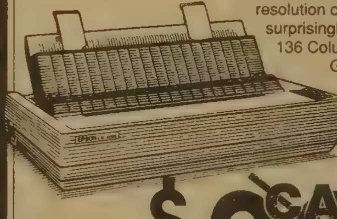

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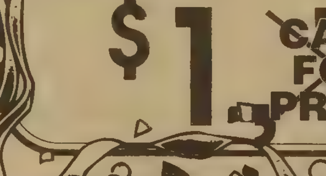

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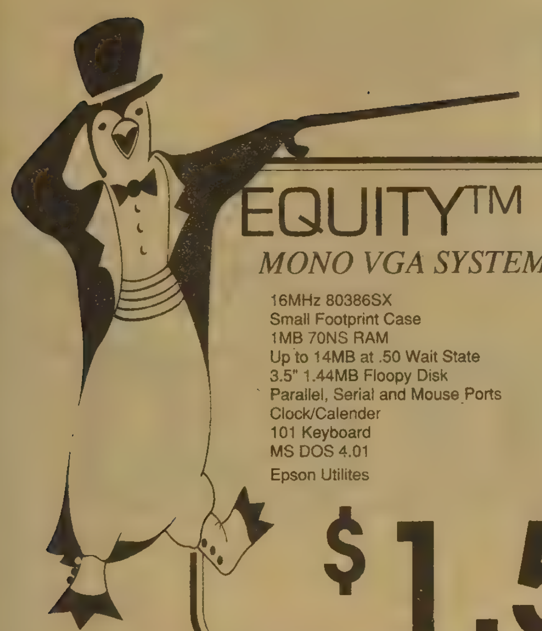

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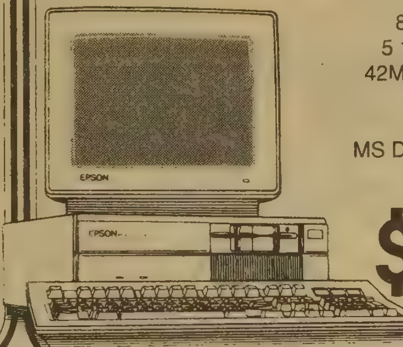

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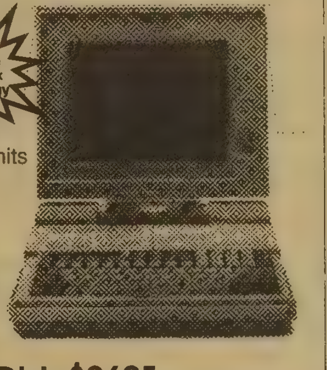

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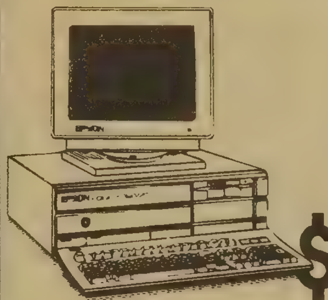

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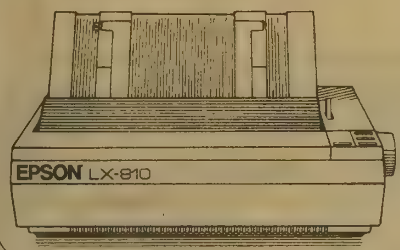

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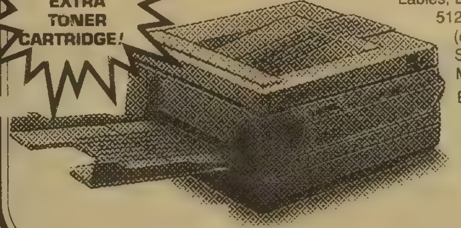

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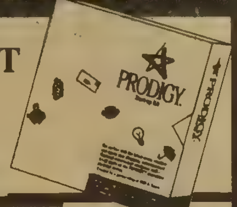

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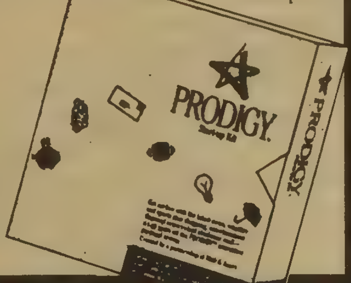

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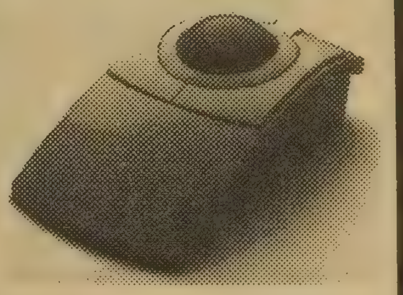

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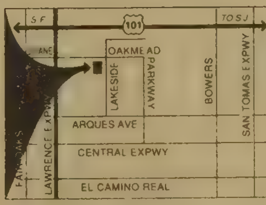

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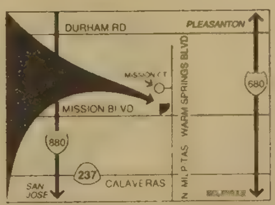

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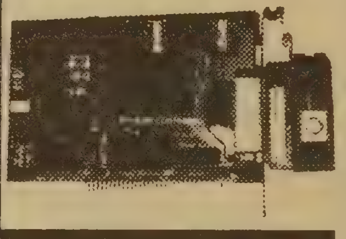

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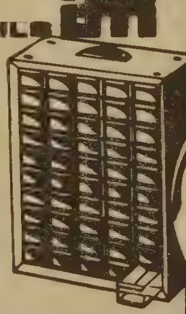

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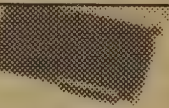

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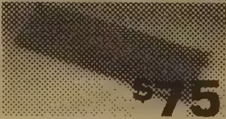

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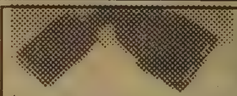

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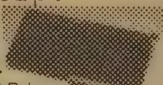

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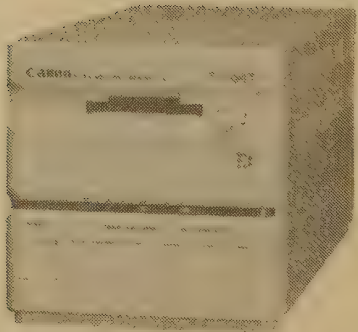
Billed as the "next generation" 9-wire printer, the Citizen 200GX offers a host of advanced features, including Command-Vue II front panel control, Color On Command color option and improved paper handling capabilities. This new printer offers 312 cps (10 cpi) and 40 cps (near letter quality).

From students to executives in the home office, the 200GX is designed so that anyone can quickly master its many functions. The Command-Vue II front panel control with a menu slide switch enables anyone to easily select from more than 25 printer functions, including print color with seven colors, five resident fonts, and top-of-form adjustments.

Users can easily switch between continuous paper and single sheet feed. The convertible push/pull tractor, with rear and bottom feed slots, allows the user to determine the best position from which to advance letterhead, fanfold pater, forms, labels and transparencies. ($299) Citizen America Corporation, 2401 Colorado Ave., Suite 190, Santa Monica, CA 90404. (213)453-0614.

CANON AND ALDUS JOIN FORCES FOR COLOR IMAGE INPUT

Canon has joined with Aldus for a new color-image input system for Macintosh-generated documents. The system permits fast, easy incorporation of still-video color images into documents, and was specially designed for use in color-separation work and composite printing.



The system is built around the new Canon FV-540 Video Floppy Disk Drive, a combination still-video player and color digitizer. The hardware FV-540 in conjunction with Aldus software can convert analog images stored on a 2" still-video floppy disk into digital images. The software includes Aldus Pagemaker, Aldus PrePrint and an Aldus interactive driver for the FV-540.

After shooting pictures on a still-video camera, the images can immediately be brought into the system without waiting for further processing. The Canon FV-540 can convert an image captured on a still-video camera into a full-color digitized picture of up to 640 x 480 pixels at 24 bits per pixel.

Using Aldus PageMaker, the images can be incorporated into a publication, which can then be printed directly from PageMaker or stored on a disk as a PostScript file.

To create color separations, PrePrint links the PostScript file with images and generates four-color separations or color composites of the entire publication. Images can be adjusted in PrePrint for color saturation, contrast, brightness and sharpness. Highlights, midtones and shadow can be enhanced, and color casts corrected. Canon USA, Inc., One Canon Plaza, Lake Success, NY 11042. (516)488-6700.

NIKON LS-3500 FILM SCANNER FOR COLOR SLIDES

The Nikon LS-3500 Film Scanner offers easy-to-use image scanning for both color and monochrome 35mm

PRODUCT UPDATES

- QMS has extended the warranty on the ColorScript 100 Model 10 from a 90 days return to factory to a one-year return to factory warranty
- Cheyenne Software has released a new version of The Organization Analyst, a sophisticated software tool used for corporate restructuring. The new version 2.0 contains 23 performance and functional enhancements.
- Innovative Data Design, a leading developer of precision drawing and design software for Apple Macintosh computers, has shipped MacDraft 2.0, the company's most popular drawing and design software. The new version includes full Mac II color support, custom fill patterns in black and white or color, editing of colors and patterns, on-line symbol libraries, and more.
- WordPerfect is now offering WordPerfect Office Editor 3.0 as a separate product. The company is releasing Editor 3.0 prior to the release of WordPerfect Office 3.0 because of requests for an enhanced macro editor to support WordPerfect 5.1 macros.
- Recital, a relational database management system and language package, has been enhanced to provide dBASE IV language compatibility. Recital 6.3 offers more than 100 enhancements, including compatibility with dBASE IV and improved compatibility with Clipper Summer '87 and improved FoxBASE 2.1.
- Silicon Beach Software announced version 2.1 of Super 3D, the three-dimensional modeling and animation program. In addition to VersaCAD file conversion, version 2.1 adds support for 32 bit QuickDraw. This release will be mailed free to all 2.0 registered users.
- Microlytics, Inc., the publisher of Word Finder electronic thesaurus, has introduced Word Finder Plus. The new program is an integrated multiple language spell checker and thesaurus that allows users to switch between UK English, German, and French with a single keystroke. Additional languages, including Spanish and Italian, will be available as separate add-on packages.

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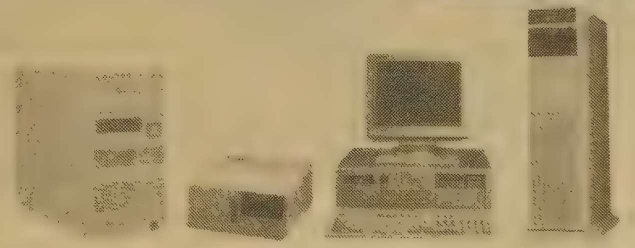

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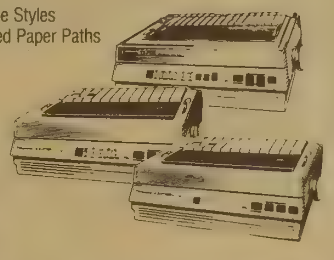

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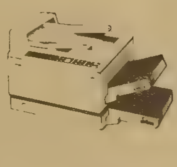

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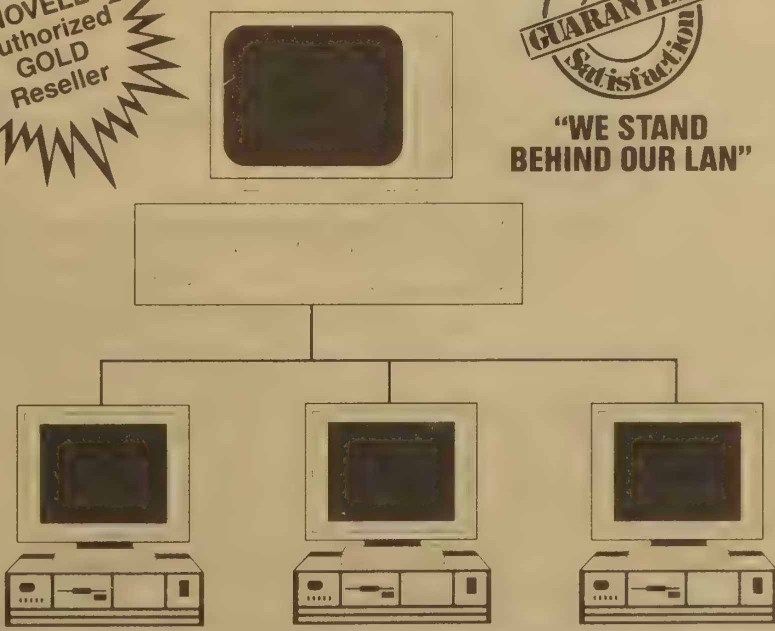

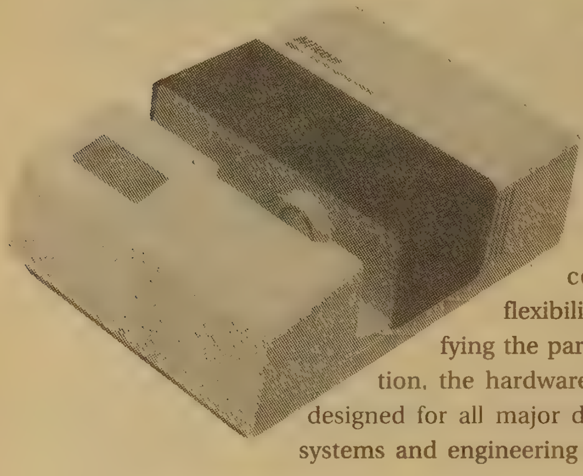

film. The simple command structure, in ASCII codes, provides flexibility through specifying the parameters. In addition, the hardware and software is designed for all major desktop computer systems and engineering workstations, including the Apple Macintosh, IBM (and compatibles), and UNIX operating systems.

The LS-3500 reads directly from positive or negative film with accurate reproduction. Red, blue and green are each sampled in 8-bit code to provide 256 color gradations. Sequential scanning of the three color screens produces more than 16.7 million colors. With 4096 x 6144 pixels over a 24mm x 36mm area, the reproduced images have perfect color registration and ultra-high definition.

Small enough for desktop use, the LS-3500 measures 11.3" x 15.1" x 5.6" and weighs only 15.4 lbs. for easy portability to other workstations. The suggested retail price is $9995; software for either a Macintosh or IBM computer is $770. Nikon, Inc., 623 Stewart Ave., Garden City, New York, NY 11530. (516)222-0200.

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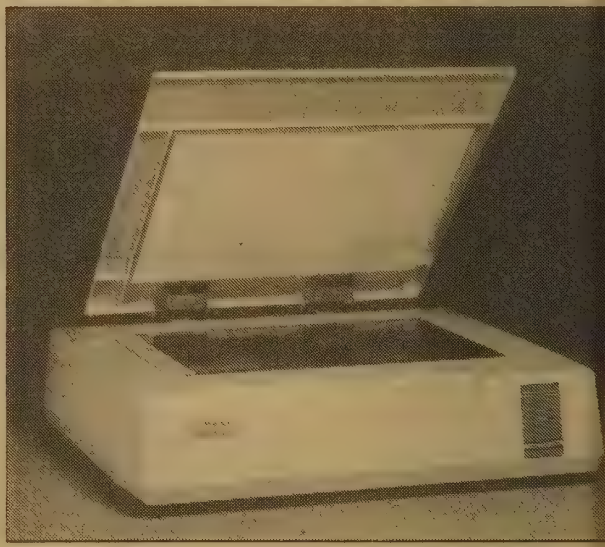

With the SC-7500 you can selectively scan a fixed input area and orientation or specify any deviation from the fixed area. To further enhance the selective scanning features, templates may be created and stored for frequently used areas. These features will speed up the image scanning process.

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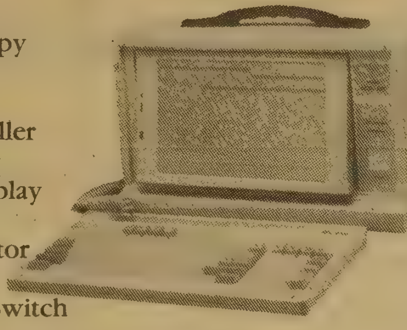

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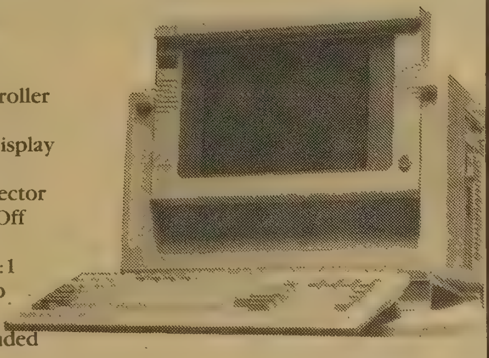

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486

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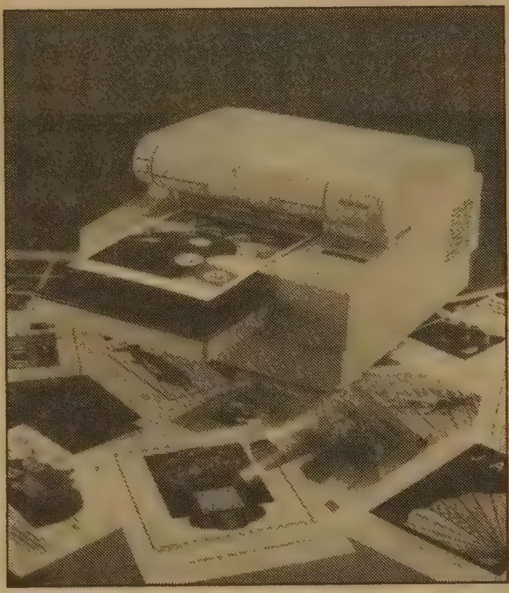

OCÉCOLOR OFFERS A CERTIFIED FULL PALETTE

The OcéColor color PostScript printer, offering Pantone-certified full-color output, was featured recently at the Spring 1990 MacWorld Expo in San Francisco.

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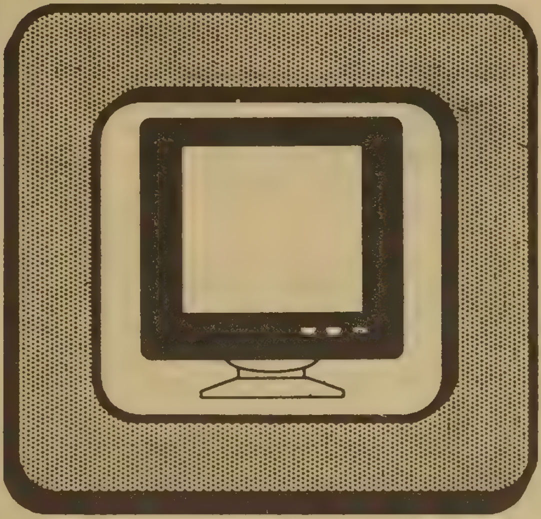

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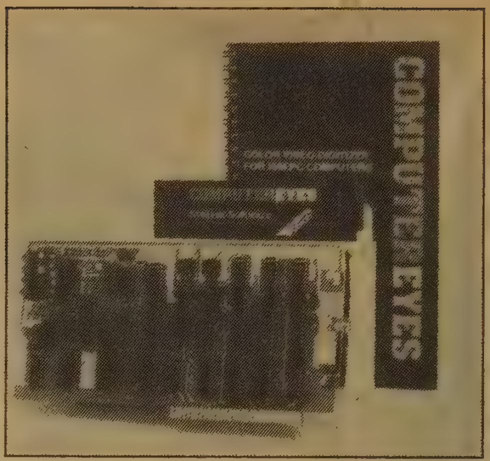
Digital Vision has released a new full-color Professional Series ComputerEyes video digitizer offering an economical means to capture images on IBM PC and compatible computers.

ComputerEyes/Pro offers high resolution image capture (640 x 480) from any standard (or Super-VHS or Hi-8) camcorder or VCR at up to 24-bit (16 million color) palette depth. Images are displayed with the PCs standard EGA, VGA, or Super-VGA graphics capabilities, requiring no addition hardware.

The Pro series is expected to find broad application in desktop publishing and color pre-press, with image databases, paint and animation programs, and in the rapidly growing market for corporate electronic presentation technologies.



This series was designed with integration in mind. A developer's software kit is available that offers developers the ability to easily incorporate image scanning capabilities directly into their applications. ($449.95) Digital Vision, Inc., 270 Bridge St., Dedham, MA 02026. (617)329-5400.

KODAK'S NEW COLOR VIDEO PRINTER

A second-generation color video printer was introduced by Eastman Kodak. The SV6510 color video printer couples patented continuous-tone thermal print technology with many new features designed to support user needs.

New features include a wired remote connector, a capability for printing multiple copies of individual images, switchable full-color/black-and-white printing, and a single image/quad image selector switch. The printer also allows users to make RGB, black level, contrast and color balance adjustments.

The Kodak SV6510 color video printer has a high tolerance to missing sync pulses on video inputs. A new forced capture switch allows the printer to capture an image even if it is unable to determine which field of the image should be captured first. This provides the opportunity to salvage images even if incoming signals have faulty sync information.

Users can also crop images with a new narrow/wide border switch. Image enhancement to help sharpen an image can also be selected. Up to 256 levels of tone for each of the primary colors are represented. Thus, the SV6510 can capture more than 16 million distinct colors. ($4,500) Eastman Kodak Company, 343 State St., Rochester, NY 14650. 1-800-445-6325.

THE WORLD OF COLOR IN YOUR HAND

The HICO A4 Color Scanner is not just a new affordable hand-held scanner, but is the first to recognize 256 colors. Users can instantly transfer pictures or images from the page to the computer screen where they can change the value, saturation and hue of each picture. The Image 256 software lets you scan the picture in two or more passes and then merge

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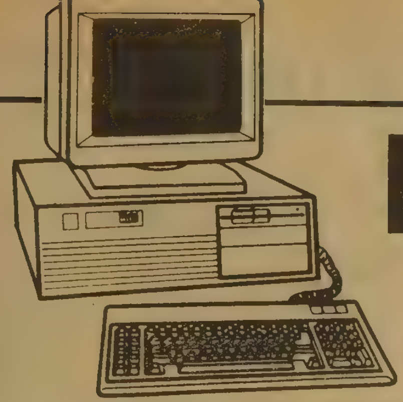

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101-key Enhanced Keyboard

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386-25 w/Cache 43.6 MHz

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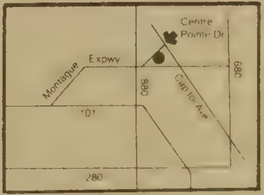

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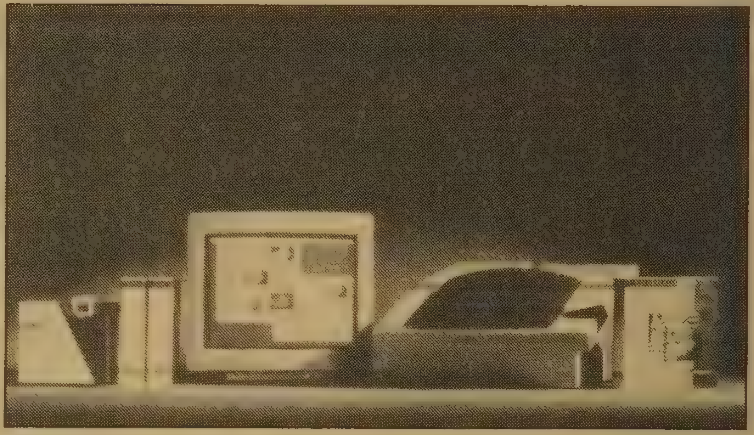
the sections together to recreate the picture. The scanner, interface card and Image 256 color editing software is available from ECA C&C Products, the American unit of Chihoo Industries of Taiwan. ($699) ECA C&C Products, Inc., 38 Route 46 East, Lodi, NJ 07644. (201)478-0302.

BARNEYSCAN PROVIDES NEW DEPTH FOR COLOR IMAGING SYSTEMS

Barneyscan Corporation recently introduced a family of color imaging systems to allow publishers to manage the entire color production process from the desktop. The system is build around four components: the CIS 4520 Multi-Format Production Scanning System ($27,995) enables users to scan positive or negative film or transparencies in 24-bit color; CIS Color Access with QuickScan ($1995) is a high-end color separation software; CIS Gallery ($695) is image database software for indexing and cataloging scanned images; and the CIS 3510 Professional 35mm Slide Scanning System ($9095) to produce high resolution images from slides. This system is designed for the Macintosh II family. Barneyscan Corporation, 1125 Atlantic Ave., Alameda, CA 94501. (415)521-3388.



ACCOUNTING SOFTWARE

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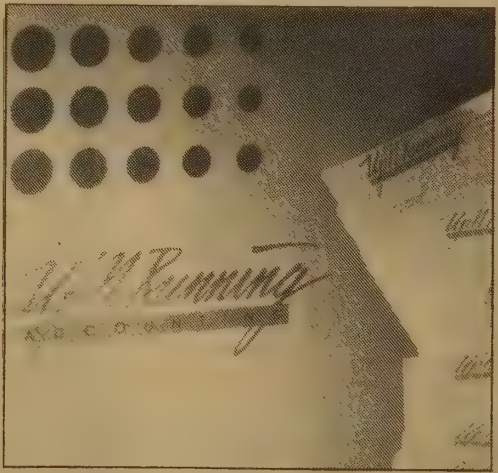
All Systems Go has released a new accounting software package to provide ease of use, flexibility and expandability. Up 'N Running Accounting package includes General Ledger, Accounts Receivable, Accounts Payable and System modules along with the Users Guide and one hour of free telephone support. An Accounting Assurance Plan includes an annual subscription with automatic software updates and ten hours of telephone support. One day on-site installation and training along with additional on-site and telephone support are also available.



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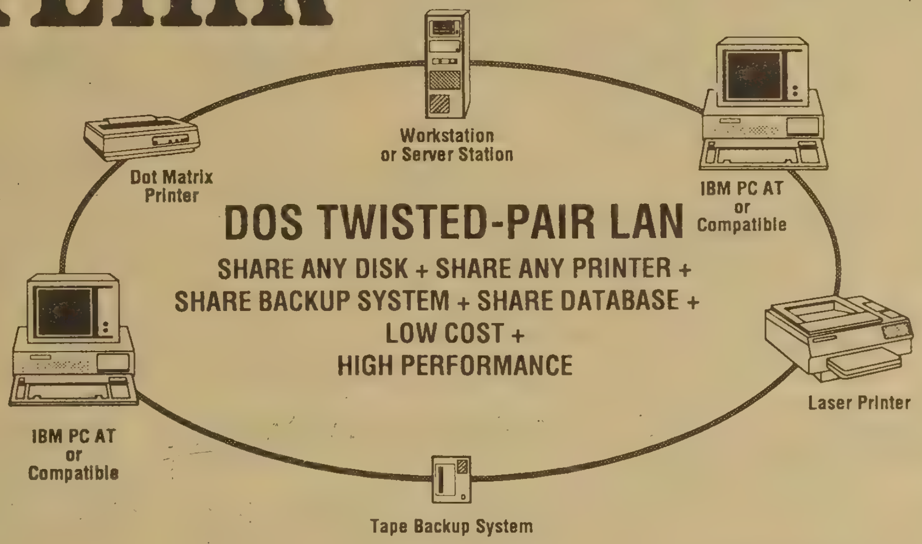

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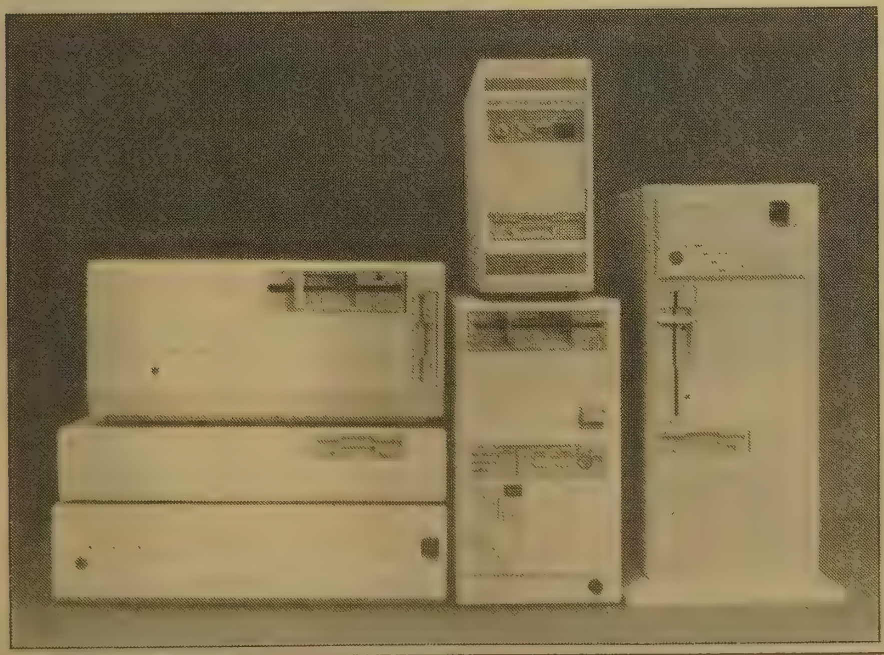

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The Accounts Receivable module helps you establish a professional image with clients. Automated invoicing and statements provides a clear audit trail for sales and cash receipts. All Systems Go, Inc. 5300 Orange Ave., Suite 121, Cypress, CA 90630. (714)761-8407.

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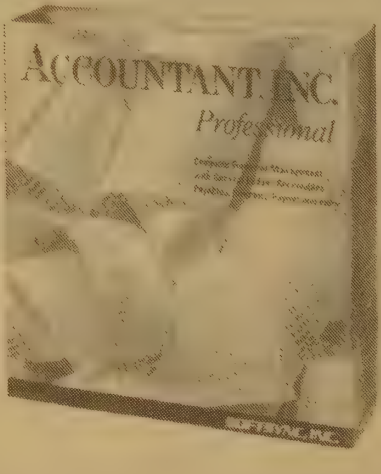

Accountant, Inc. Professional from Softsync incorporates a task approach to accounting and finance. This new program for the Macintosh breaks with the separate module design common in most accounting packages to build a fully integrated package.

The program is designed to maximize ease-of-use by letting the users select options that fit their job definitions. The menu is arranged according to the tasks the user wants to perform (**Form**, **Report**, **List**, etc.) instead of by modules.

With Accountant, Inc. Professional, businesses can track an unlimited number of customers, vendors, inventory items and General Ledger accounts. The program cre-

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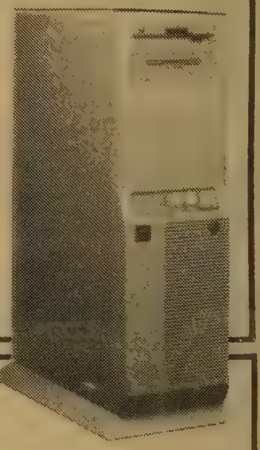

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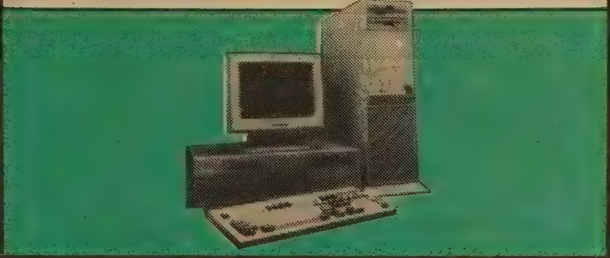

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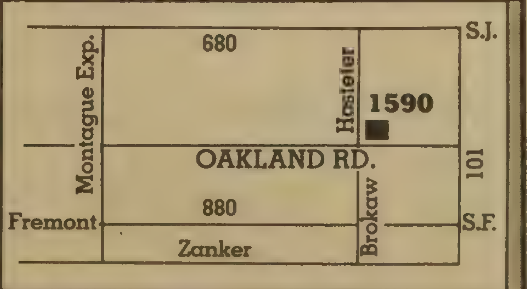

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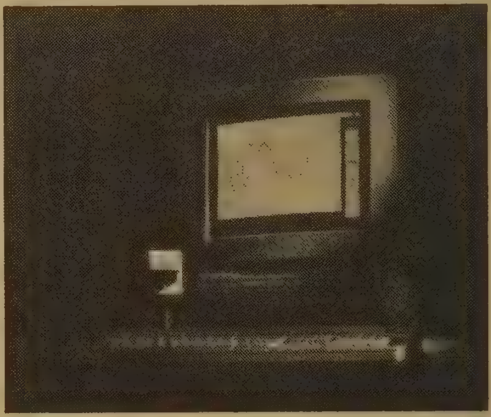

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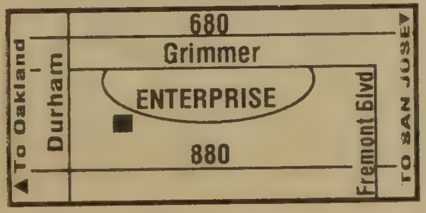

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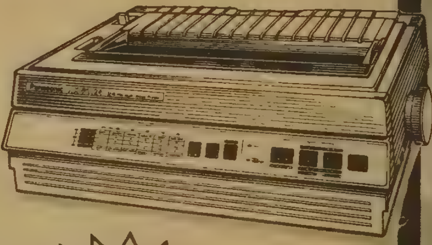

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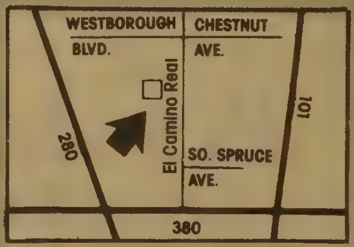

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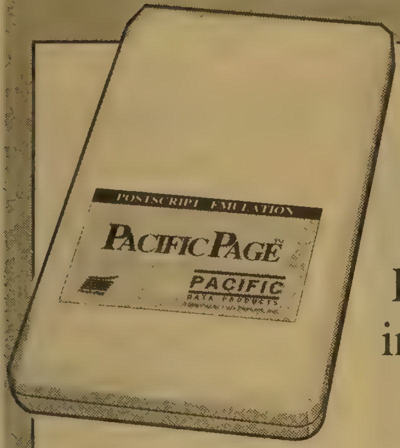

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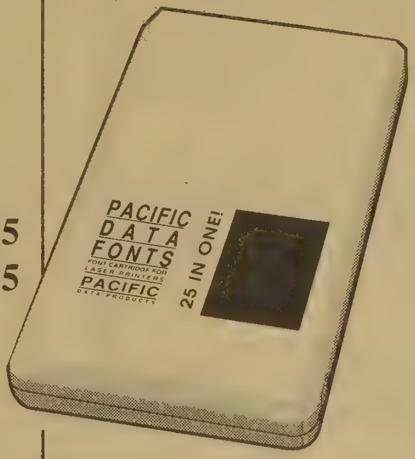

Enter new dimensions in page design with fonts from 25 different cartridges in one.

- Choose from 103 fonts, 13 type families, 11 sizes of type.
- No more downloading soft fonts
- Avoid changing cartridges for different users.
- Compatible with virtually all software.

The most economical font solution!

~~$265~~	**For LaserJet II**	**$249**
	For IIP & III	**$339**

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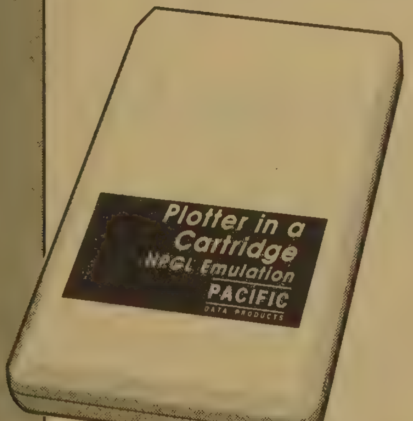
High Resolution Graphics in a Fraction
of the Time Required by Pen Plotters

The newest and fastest way to emulate HPGL™ on your laser printer.



- Prints check plots fast.
- Easy to use - automatically scales to paper size selected on printer control panel.
- Enables plotter mode to be toggled on and off from the workstation.
- Compatible with all major CAD/CAM, engineering, and business graphics software.

~~$239~~ now only $229

If you need additional memory, a 2 MB memory board is only $249.

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PRODUCT SPOTLIGHT

Highlights of the new product include 3D graphs, Excel data import and export, new productivity features such as intelligent recalculation, presentation enhancements such as new chart types and borders, and several developer tools, including buttons.

Full Impact 2.0 focuses on two key parts of Ashton-Tate's applications strategy: easy access to data, and optimizing products for Macintosh users. It combines spreadsheet capabilities with presentation graphics and desktop publishing functions. Additionally, Full Impact takes advantage of Macintosh users' interface concepts in a clear intuitive way. The program is easily customized to the user's particular needs and habits. This allows the user to quickly and efficiently perform spreadsheet calculations and produce reports that have the "full impact."

Full Impact has a suggested retail price of $295 and includes, free, unlimited technical support. Ashton Tate, Inc., 20101 Hamilton Ave., Torrance, CA 90509-9972. (213)329-8000. FAX (213)538-7998.

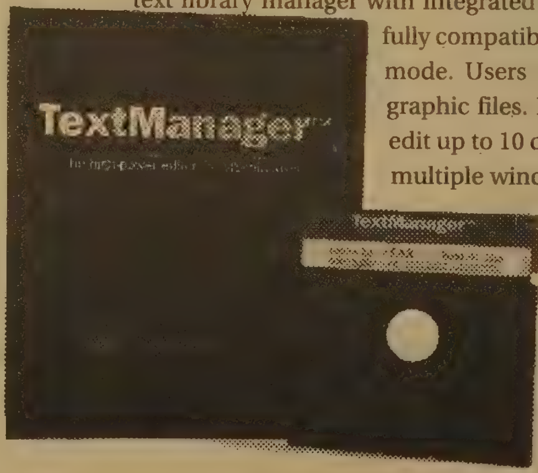
OTHER NEW PRODUCTS

Z-TECHNOLOGY OFFERS A COMPLETE 486I SYSTEM

Z-Technology Systems, the five-year-old Bay Area computer manufacturer, has introduced a new product line, the ZTS-486i system. It presents a complete integrated system by gathering all the features you would like in a computer, as well as the options that you would think of adding. Using the latest 80486 CPU by Intel "version P6" the ZTS-486i measures 117 MHz, includes 8 expansion slots and supports up to 16Mb on the motherboard, eliminating the need for a memory card.

At the heart of the machine is the ZTS power supply, with built-in surge protector up to 5000 volt spikes, a 16-bit VGA adapter, and an Omni style keyboard with 102 keys; 12 function keys on the left hand side and a separate numeric key-pad for spreadsheets. ($4986) Z-Technology Systems, Inc., 441 Grand Ave. West, South San Francisco, CA 94080. (415)558-3386.

WRITE, EDIT, OUTLINE AND FAX IT WITH TEXTMANAGER+FAX



TextManager+FAX is a powerful text editor, integrated outliner and text library manager with integrated FAX capability. Version 2.0 is fully compatible with Windows 3.0 protected mode. Users are able to fax text and PCX graphic files. In addition, TextManager can edit up to 10 documents at the same time in multiple windows. TextManager 2.0+FAX is for Windows, and has a suggested list price of $99.50; the OS/2 Presentation Manager version has a suggested list price of $149.50. Solea Systems, Inc., 61 Bennington, Irvine, CA 92720. (714)551-1852.

415-770-0917

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NETWORK

4-USER SYSTEM
- ELS level I
- Fuji 386-SX Mono Fileserver 4MB Memory w/80MB HD
- 3 Fuji 286-12 Mono w/640K workstation

$4995

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- ELS level II
- Fuji 386-SX Mono Fileserver 4MB Memory w/80MB HD
- 7 Fuji 286-12 Mono w/640K workstation

$8995

- Both system prices include ELS software and netware installation on fileserver
- Optional 386-20 & 386-25 fileserver upgrading available
- Complete service for testing

40 MB 23ms Hard Disk Systems

40MB Fuji 386-33 Cache System w/4MB Memory

PC MAGAZINE BEST BUY February 13, 1990

$2519

Fuji Systems w/1MB:
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- 1MB Memory
- 1 Serial, 1 Parallel, 1 Game Port
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- Dual FD/HD 1:1 interleave controller
- 1.2 or 1.44 MB Floppy Drive
- 200W Enhanced Power Supply & AT Case
- 101 Enhanced Click Keyboard
- 40 MB 23ms Hard Disk

40MB Fuji 386-SX System w/1MB Memory
CPU = SX 16MHz
BIOS = AMI
LANDMARK = 20.6
NORTON SI = 17.1
MIPS = 1.93

$1009

40MB Fuji 386-20 System w/1MB Memory
CPU = 20MHz
BIOS = AMI
LANDMARK = 26.40
NORTON SI = 22.50
MIPS = 2.59

$1249

40MB Fuji 386-25 System w/1MB Memory

$1329

40MB Fuji 286-12 System w/1MB Memory
CPU = 12MHz
BIOS = AMI
LANDMARK = 16.00
NORTON SI = 14.30
MIPS = 1.67

$819

40MB Fuji 286-16 System w/1MB Memory

$909

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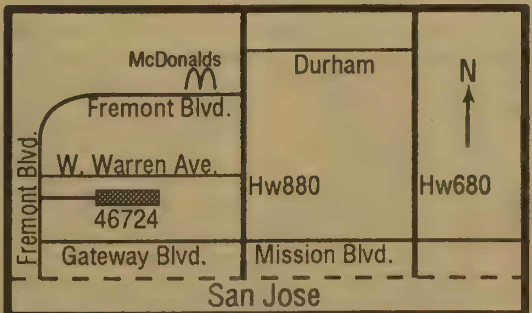

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2 MB	.255

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High Resolution Graphics in a Fraction of the Time Required by Pen Plotters
- Speed check plot printing
- Easy to use–Automatically scales to paper size selected on printer control panel
- Enables plotter mode to be toggled on and off from workstation
- Compatible with all major CAD/CAM engineering and business graphics software

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SERIES IIP, IID, III **$225**

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FOR IBM LASER PRINTER 4019

- Download fonts & forms
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- Allows high resolution printing while in plotter mode

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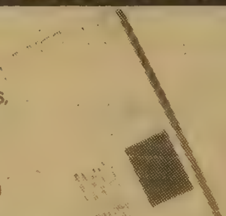

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- From 14 to 48 point fonts

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- Rear, bottom, front and top feed
- 360x360 dpi resolution
- Multiple font capabilities–2 draft and 5 letter quality

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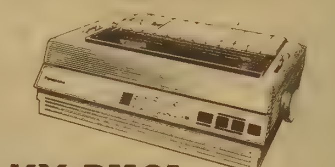

KX-P1191

- "EZ-Set" front panel controls over 15 functions
- 240 cps, 48 cps NLQ
- Combines over 4600 type styles
- 240x216 dpi resolution
- Paper park
- Adjustable push/pull tractor
- 11.7" carriage
- 2 year warranty

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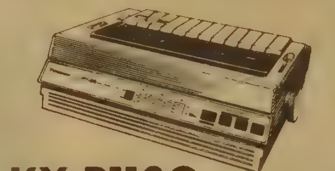

KX-P1180

- "EZ Set" front panel controls over 11 functions
- 192 cps, 38 cps NLQ
- 4 resident NLQ & 2 draft Fonts
- Combines over 3400 type styles
- 240x216 dpi resolution
- Paper park
- Adjustable push/pull tractor
- 11.7" carriage
- 2 year warranty

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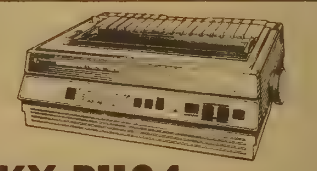

KX-P1124

- "EZ-Set" front panel controls 20 functions
- 24-pin for True Letter Quality
- 192 cps, 63 cps NLQ
- 5 resident LQ Fonts
- Combines over 5500 type style
- Rear, bottom, front feed paper paths
- 360x360 dpi resolution
- 2 year warranty

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Cut Sheet Feeder $120

PANASONIC LASER PRINTER

- 11 pages per minute
- 2-250 sheet paper cassettes
- 300 dpi resolution
- 5 popular emulations
- Front panel controls

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1 MB Memory Card	$285
Toner	35
Fonts	95
Legal Tray	45
Drummer	145
Envelope Tray	59
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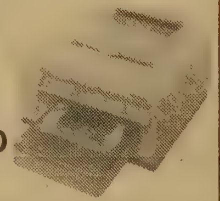
NEW! LASER PRINTER KX-P4420



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- 300 dpi Resolution
- 512K Exp to 4.5 MB
- 22 Resident Fonts
- HP Series II Compatible

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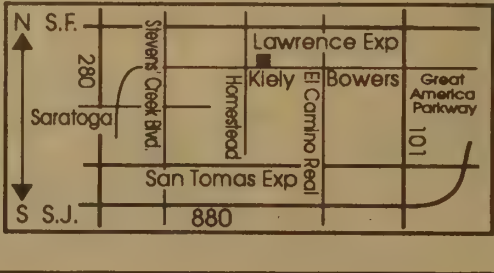

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- W.D. 1:1 Controller
- 1.2 MB Teac Drive
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- 1 MB (up to 8 MB)
- W.D. 1:1 Controller
- 1.2 MB Teac Drive
- AT Power Supply & Case
- 101 Keyboard

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386-20 Motherboard

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- W.D. 1:1 Controller
- 1.2 MB Teac
- AT Power Supply & Case
- 101 Keyboard

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- 1.2 Teac Drive
- AT Power Supply & Case
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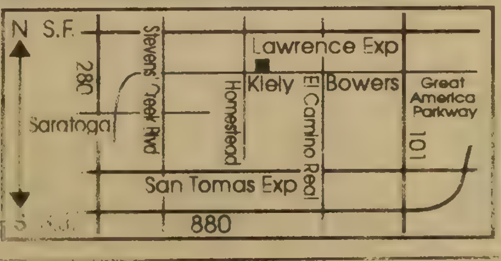


Reviews

MS-DOS SOFTWARE

GRAPHICS

All in all, Impress is nicely done, integrates with 1-2-3 seamlessly, and allows you to work in whatever mode you desire...

IMPRESS

Published By: PC Publishing
Suggested Retail: $149.95
Reviewed By: Woody Liswood

A few months ago I wrote a rave review about Allways, a program which enhances Lotus 1-2-3 worksheets so that they print the way you want them, using multiple fonts, lines, boxes and other such goodies. However, after working with a recent competitor called Impress, I switched all of my work to Impress. In my opinion, not only does it do the same thing, it does it better and easier.

One main difference is that with Impress you can work either in the normal display mode of 1-2-3 or in the Impress mode. With Allways, you could set your display and printing up in Allways mode, but you had to work on the spreadsheet in its normal display mode. By letting you work in the spreadsheet in either mode, Impress makes your work much easier; it eliminates continuous switching back and forth. It is a WYSIWYG workhorse.

Impress's handling of page breaks is especially nice. If you have rather large worksheets, as I have, you sometimes would like to print areas a certain way. Rather than write a printing macro to print section by section, with Impress you can put both vertical and horizontal page breaks wherever you like; when you print the entire area, the pages come out the way you want.

Impress allows eight fonts to be used at any one time, along with bold, italics, and underlines. There are four shading values as well as eight colors for background and characters. If you use a PostScript printer, you can get additional shadings, since the PostScript driver interprets the colors as variations on dot patterns and shading. And, as you might expect, Impress also lets you box cells in any manner you choose.

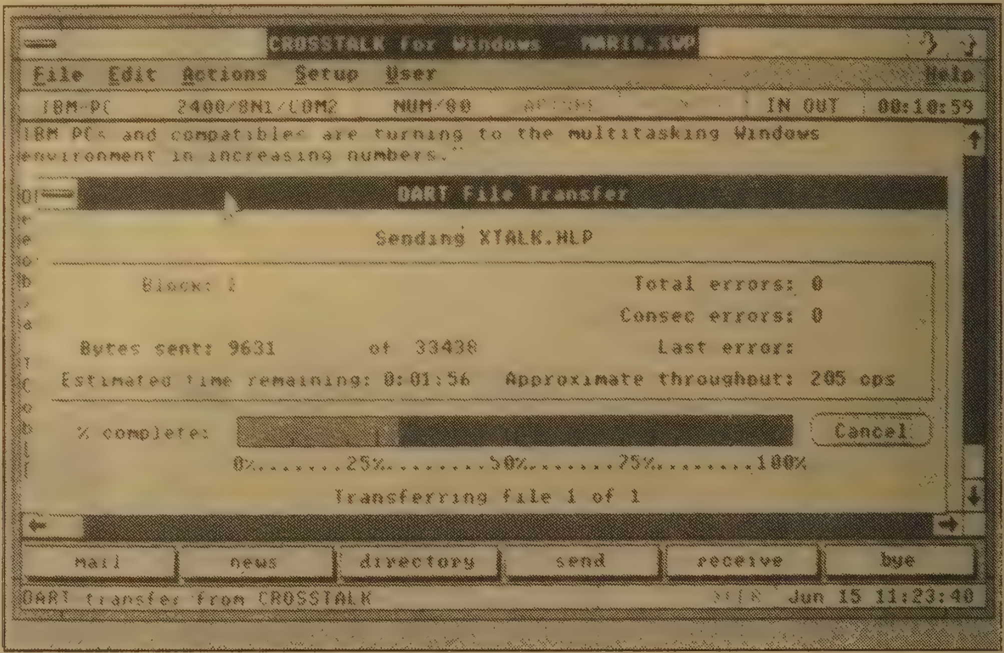
Impress works with CGA, EGA, VGA and Hercules displays. I tried it with all of the displays and found that CGA was very difficult to read and work with in Impress mode, but I could read the characters in all the other modes. It requires Lotus 1-2-3 2.0 or greater. I also used Impress with Lotus 2.2 and it ran fine out of the box. It does not work, in its present form, with 3.0.

I also created some printing macros to run in Impress mode, and had no problems, so it looks like the Impress integration with the spreadsheet is seamless.

There are a few minor problems. The on-screen display of proportional fonts does not match up with the printed page if you are doing paragraphs and long lines of type. If you are doing critical text work with Impress, you probably will need to check the printing and make adjustments before final printing. Impress does not support the Pacific Data Products 25-In-One cartridge, which I rather like. I had occasional problems with the Impress PostScript driver refusing to print.

For fonts, Impress uses Times, Helvetica, Courier, and a special Symbol font set. Fonts can be sized from 6 to 24 points. There is no illustration of the Symbol set in the documentation, so you will need to create a worksheet which contains all of the keystrokes available on your keyboard, then assign it to the symbol set to see what you will get printed. The symbols do appear on screen, so you can go trial and error until you find the one you want. Just remember that you are working on a cell by cell basis and cannot mix symbol sets on the same line in the same cell. There are things like numbers in circles and other goodies to make your worksheet more interesting.

The useful **View** command lets you expand or shrink the view of the worksheet from up to a 60% compression to a 150% expansion. You can also define an reduction down to 25% and an expansion of up to 200%.



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DART transfer from CROSSTALK                          Jun 15 11:23:40
```

Crosstalk for Windows supports almost all file transfer protocols.

Graphs can be added, positioned, sized, and redisplayed after a worksheet value has changed. For performance purposes, you can also display an inserted graphic as a shaded box so that it prints correctly, but does not slow down the program while you are working.

All in all, Impress nicely done, integrates with 1-2-3 seamlessly, and allows you to work in whatever mode you desire. (PC Publishing, 1801 Avenue of the Stars, Los Angeles, CA 90067, 213/ 556-3630)

TELECOMMUNICATIONS

CROSSTALK FOR WINDOWS

Published By: Digital Communications
Reviewed By: Woody Liswood

If you have ever needed a reason to switch to the Windows environment, Crosstalk for Windows is it. I predict that once you have used this program, you'll find it very difficult to return to that old-fashioned, character-oriented, slow, not-too-flexible program you're probably used to using.

Crosstalk for Windows runs under Microsoft Windows 2.03 or greater; I run it under Windows 386 so that I can have true multi-tasking. Crosstalk for Windows downloads a file in the background while I work on some other task. Using the DDE language associated with Windows applications, you can have Crosstalk for Windows download infor-

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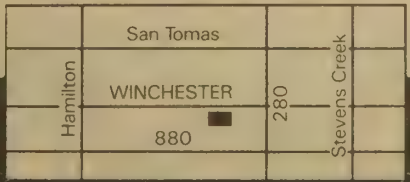

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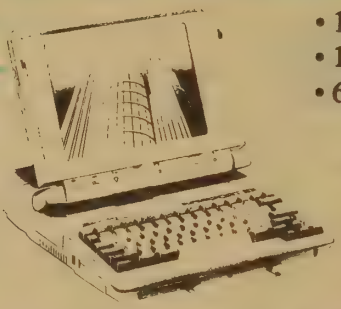

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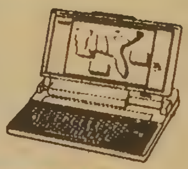

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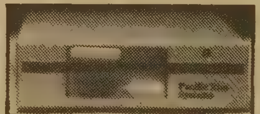

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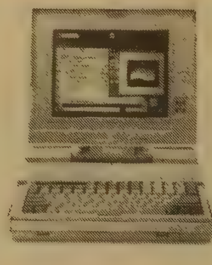

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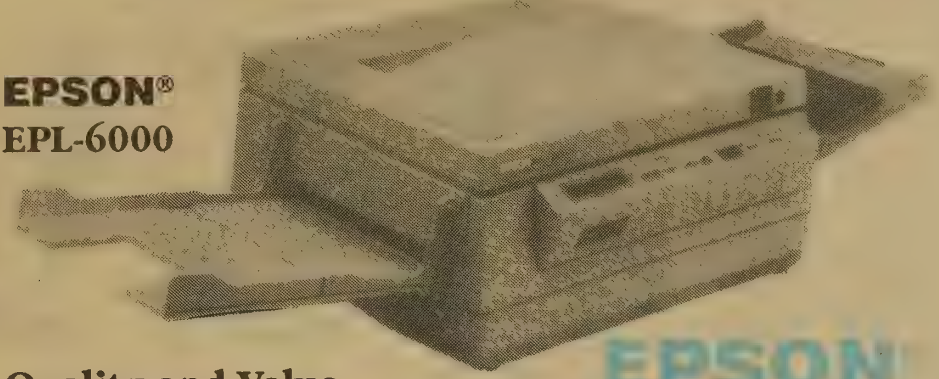

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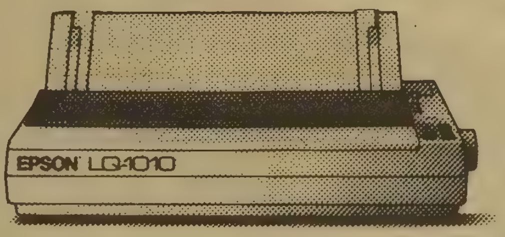

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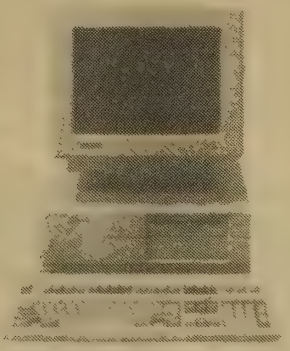

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mation directly into another program. An Excel macro included with the package runs Crosstalk for Windows in the background to download stock prices from CompuServe and insert that information into an Excel worksheet.

Crosstalk for Windows emulates a number of popular terminals, including DEC VT102, VT52 and IBM 3101. It supports most standard communications and display protocols and works with 300, 1200, 2400, 9600 and 19200 baud rates. Almost all file transfer protocols are supported—all varieties of Xmodem are there as well as Ymodem, Zmodem, Crosstalk, DART, CIS B, and Kermit. And, yes, you can also do ASCII transfers.

Crosstalk includes a robust scripting language which accesses all the program's functions. It includes a multitude of sample scripts to show you how to write the scripts and to allow you to start to use the program without much effort on your part. There is almost unlimited text management support. While communicating with another computer, you can capture, identify and send text back without leaving Crosstalk for Windows or breaking off communication.

If you're familiar with the Windows interface already, getting set up and using the program is easy.

Special features of note to frequent telecommunicators: the scroll buffer is adjustable to whatever size you like. If there is not enough memory, Crosstalk for Windows will use the disk as virtual storage. You can enter and edit text in this buffer any time you want.

If you love the mouse, you never even have to touch the keyboard, since the mouse can initiate every Crosstalk for Windows command and function.

This program has actually changed my entire style of telecommunicating. In the past, I used to sit with my hands at the keyboard, staring at the screen, ready to type and reply at a instant's notice. With Crosstalk for Windows, I more or less slouch back, and just move the mouse around. I can log on, log off, read messages, thread my way through the maze of CompuServe or The WELL, without touching the keyboard. In fact, the only time I have to keyboard is when I reply to a message, or I want to create a macro on the fly.

Try as I might, I could not find anything I disliked about Crosstalk for Windows, its style of operation, and its behavior on my computer. All in all, it's the best communication program I have used...and that goes back to my Apple II days.

MS-DOS HARDWARE

PERIPHERALS

VALITEK PST-60 TAPE BACKUP SYSTEM

Manufactured By: Valitek
For: MS-DOS systems
Suggested Retail: $1495
Reviewed By: Woody Liswood

I've been looking at tape backup systems for some time, and have found problems with many of them. Many of the tape units like to work from the floppy drive controller, and many of the controllers cause difficulties. The speed of the backups, verifies, and restores is often unsatisfactory, and it's often a hassle just getting a good restore from a normal and/or verified backup.

The Valitek suffers from none of these problems. It works from either the parallel or serial port and the speed is excellent for both, though you'll get the best performance from your parallel port. With other machines I've tried, I could save and verify the tape, but always had files missing or bad during restore operations. Again, not so with the Valitek.

I tested the unit with a 20 MHz ALR 386 and a 12 MHz Laser 386. The ALR has a 155Mb hard drive and the Laser has a 40Mb hard drive. Performance varies with the type of CPU, with rates from 1Mb per minute for an 8088 to 4.5Mb per minute with an 80386.

The documentation was clear, but I didn't need it much because the menu system was self-explanatory and worked well. The backup menu lets you back up the entire disk, or select individual files or subdirectories, or even tag individual files through a point-and-shoot menu, or through using file names and wild cards. If you find that you do different types of backups on a regular basis, you can also create a batch file to hold your regular specifications.

Depending on the length of your tape and the size of your backup, you can have the Valitek either append a backup to a tape already in use, or start at the beginning and reuse the entire tape. If you are using brain-dead software which has protection systems that scatter hidden and system files

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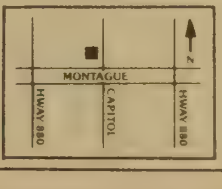

throughout the disk, you can set the Valitek to either ignore all hidden and system files or copy and overwrite them during restore, as you wish.

I found only one minor (software) problem with the unit, which should be corrected by the time you read this. I use a 155Mb drive, since I am always testing and working with software. When I first ran the Valitek, I had only about 90Mb of software on the disk. The Valitek worked perfectly. A couple of weeks later, I went to do some more testing, and found that I had internal memory errors. It seems that while the Valitek could handle as many megabytes of software as you wanted to save, it could not handle a subdirectory system with over 155 directories and subdirectories. If you have a very complex system, this might be a problem. (Valitek, Inc., Mountain Farms Mall, Hadley, MA 01035, 413/586-7408)

If you are using brain-dead software which has protection systems that scatter hidden and system files throughout the disk, you can set Valitek to ignore or copy and overwrite them...

MACINTOSH HARDWARE

PERIPHERALS

SPECTRUM/24 SERIES III GRAPHICS CARD

Manufactured By: SuperMac
For: Macintosh II family
Suggested Retail: $3999
Reviewed By: Mary Eisenhart

When we got our first look at 24-bit color on the Macintosh a couple of years ago, it was breathtakingly beautiful. Photographic-quality color, combined with scanner technology and ever-better software tools, opened up whole new graphics and presentational opportunities.

In those days, though, performance was a real problem—most 24-bit hardware demos studiously avoided having to redraw a screen, for instance, because it took forever, and the conventional wisdom was that if you were going to do 24-bit color, you had to have at least 5Mb of RAM. This had a somewhat discouraging effect on the growth of the market.

While software vendors were busily creating applications that could take advantage of 24- and 32-bit color capability, card-makers were scrambling to achieve the display quality and performance levels to make those applications work. SuperMac's Spectrum/24 Series III card qualifies admirably—not only does it give us the "millions" color option, its speed in handling demanding tasks is far better than we were expecting.

We used this card (which, like Mac cards in general, was a snap to install and configure) with SuperMac's 19" Trinitron display (although it will also work with 1024 x 768 60 Hz displays, the RasterOps 75 Hz display, and Apple's 13" RGB monitor). This is a winning combination—while our art department still prefers the Apple Two Page Monitor for monochrome work because it's the sharpest and easiest-on-the-eyes thing we've seen yet, the SuperMac is a close second in monochrome and unbeatable in color. Unlike other systems we've seen, including some

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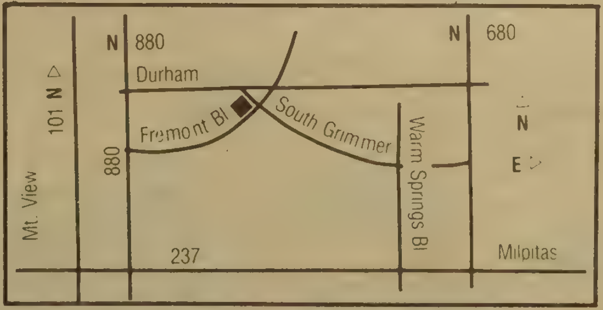

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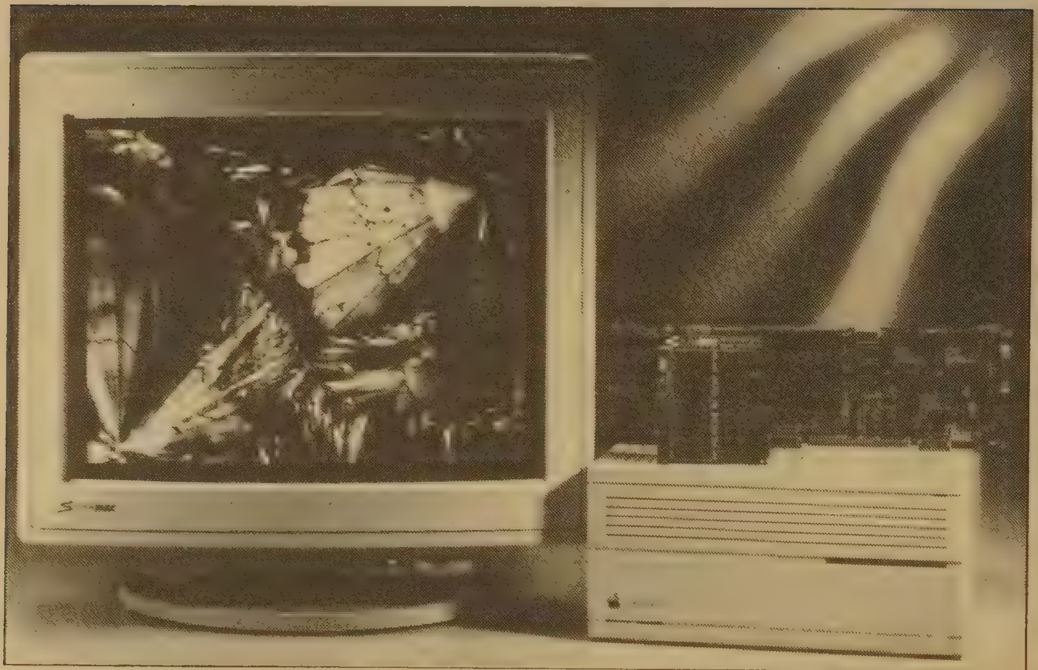

The SuperMac card/monitor combination shows a near-total absence of flicker and distortion.

that use the 19" Trinitron from other vendors, this monitor/card combination shows a near-total absence of flicker on the screen, distortion in the corners, and fuzziness of the image.

After using the card and monitor with a Mac IIfx and a Mac IIcx, we were pleasantly surprised by the system's performance. As you'd expect, the "Wicked Fast" Mac IIfx and this system crunch right through the most demanding tasks, making short work of multi-megabyte Adobe Photoshop files and scanner documents. More surprising, if you haven't looked at 24-bit systems lately, is the fact that the speed of the same hardware attached to a IIcx, while not as spectacular, is still quite acceptable. (It goes without saying that as applications get bigger and more demanding, you want all the speed you can get for practically any graphics application, but we found the speed of the IIcx system well up to the demands of constant use in our office—and we used it for everything from magazine covers and illustrations to designing Bammies T-shirts.)

More good news—notwithstanding the doomsayers who proclaimed that we'd all need to upgrade to 8Mb of RAM to do anything with 24-bit color, we found that everything worked just fine on both the IIfx and the IIcx, both of which have a mere four megabytes. Our creative director, who has a 5Mb SuperMac 8-bit system at home and passed up the company's offer of a heavily discounted upgrade to the Spectrum 24 Series 3 last year because she figured she couldn't do much with that little memory, is now kicking herself.

We unabashedly recommend the combination of this card and the SuperMac 19" Trinitron if you want to work with Mac color at its best. (SuperMac's coming out with an even faster, and more expensive, card in June, which will also be compatible with 21" monitors, which the Series III is not. If speed is your primary consideration and you're looking for a high-end system, you might want to wait and see the Spectrum 24/PDQ before you make your decision.) (SuperMac Technology, 485 Potrero Ave., Sunnyvale, CA 94086)

THE MOBIUS CORDLESS MOUSE

Manufactured By: Mobius Technologies
For: Macintosh II, SE and Plus
List Price: $149
Reviewed By: Mike Markowitz

A cordless mouse might be considered a solution to a problem nobody has. Apple includes a perfectly serviceable mouse with every Macintosh, and they last a long time. A few users have a strong preference for alternative pointing devices like the trackball and the graphics tablet. The cordless mouse should appeal to users who find the mouse cable annoying.

The cordless mouse has two components: the mouse itself and a receiver. The receiver has a 60-inch (1.5m) cable with a DB-9 connector (for the Mac Plus and earlier Macs). For connection to the Apple Desktop Bus (ADB), you plug the DB-9 connector into a short adapter.

The cordless mouse is slightly larger than the Apple mouse, with two buttons on top and a small button on the side. The button on the left is for normal Macintosh mouse-clicking; the button on the right has no function (it apparently was included in the design so that the same mouse, with a different receiver, could be used for MS-DOS systems that recognize a second button). The button on the side is used to "wake up" the mouse after it turns itself off. The side button also activates a special "non-linear" movement mode that increases the sensitivity of the mouse. A snap-in battery cover provides access to a compartment that holds two 1.5V alkaline batteries ("AAA" cells). The cordless mouse does not require a mouse pad.

The cordless mouse was simple to install and pleasant to use. The "feel" was not perceptably different from that of the standard Apple mouse, but several users who helped me test it reported that it lowered their scores in Crystal Quest (a game that demands extremely fine control of mouse movements). The mouse has a linear tracking resolution of 200 dpi and a tracking rate of up to 600 mm/sec. A red LED on the transmitter lights up whenever it receives input from the mouse, providing direct feedback that you are aim-

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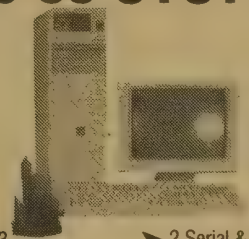

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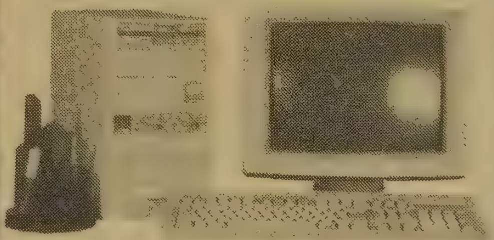

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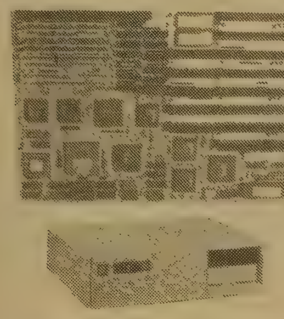

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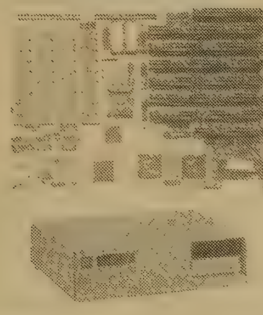
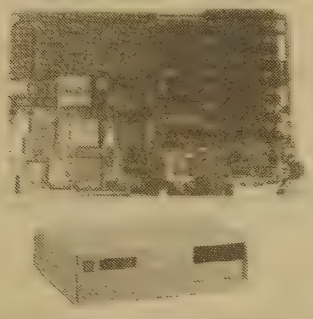


- 338SX-16 Motherboard
- Baby AT Case
- 200W Power Supply
- Landmark=19.6

$330

386-25
BAREBONE SYSTEM



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- Landmark=31

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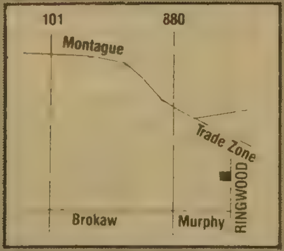

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DEALERS — CALL FOR LOW PRICES!!

In slide-show presentations, a speaker could move around the room freely using the cordless mouse.

ing the transmitter correctly. The manual claims a range of five feet, but we were able to register mouse clicks from a distance of up to ten feet. The receiver can detect the mouse up to 45 degrees to the left or right of its centerline.

If you don't move the mouse or click a button for approximately five seconds, it enters a standby mode to conserve power. If it is not used for approximately ten minutes, it turns itself off completely and you have to press the side button to wake it up again.

Since the great majority of Mac users are perfectly content with the Apple mouse, a cordless mouse at a list price of $149 must be considered an expensive novelty. Although the cordless mouse has sophisticated power-management circuitry, eventually the batteries will go dead, and Murphy's Law guarantees that this will happen at the worst possible moment. A mouse cable may occasionally get in your way, but it serves as a tether to keep the mouse firmly attached to the computer. A cordless mouse enjoys no such security, and in the chaos of a typical user's desk, it might constantly get lost or misplaced. Mobius should have at least provided a stick-on holster or pocket where the cordless mouse could be stowed when not in use.

We tested the cordless mouse receiver for interference from other IR remote control devices—this might be a problem in a media lab or video production studio. Fortunately, the mouse would not respond to spurious signals from any TV, stereo or garage door remote controller we tried.

continued

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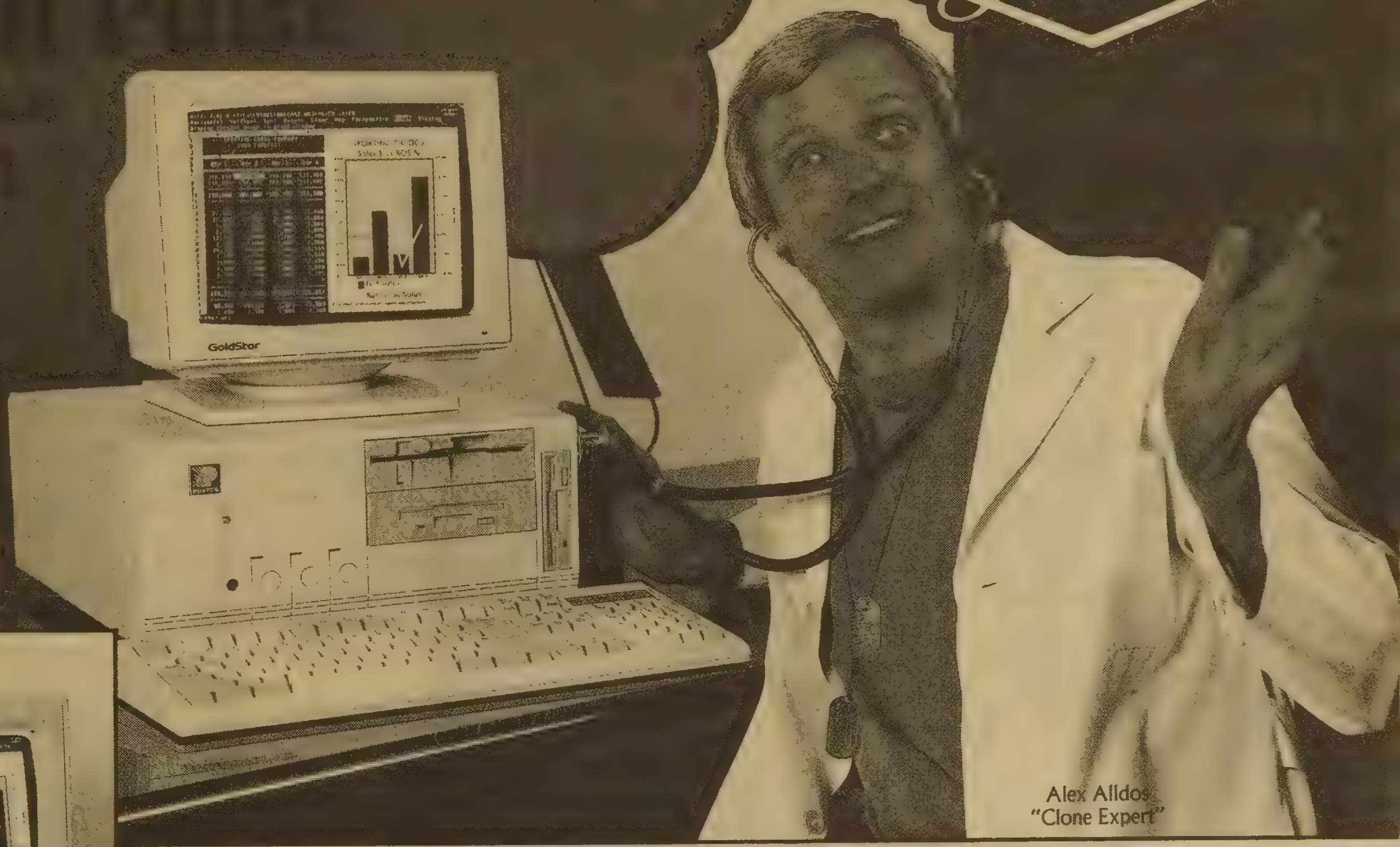

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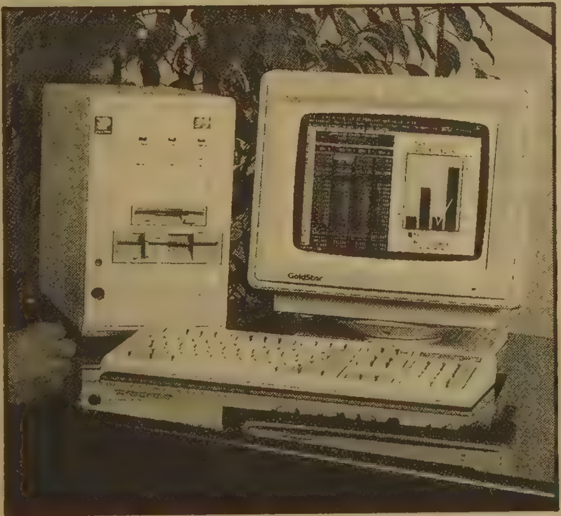

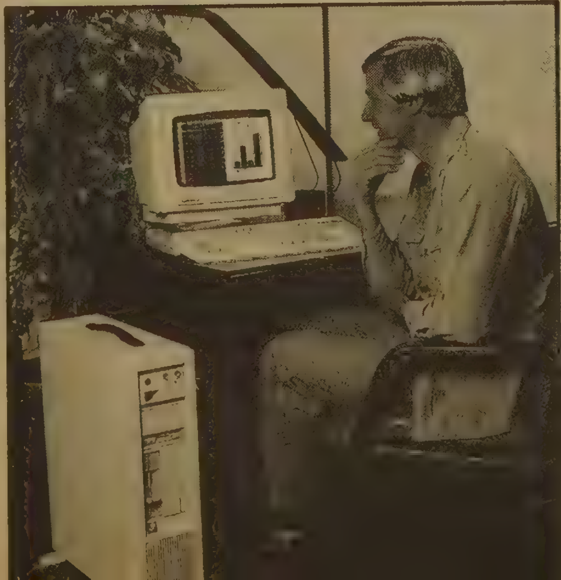

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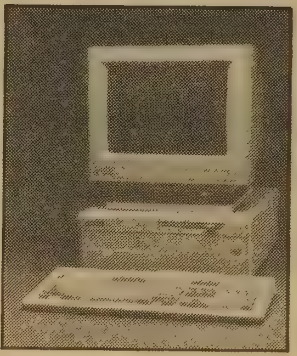

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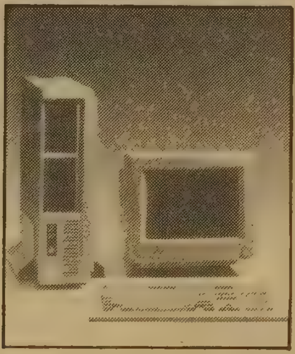

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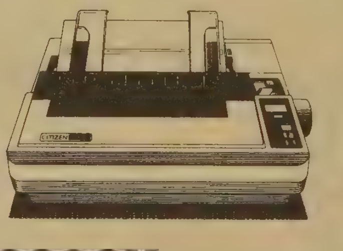

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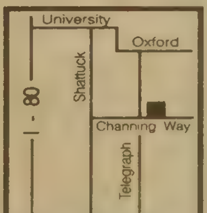


WriteNow is accessible—the manual is clear, and almost everything is available from pull-down menus.

The best application for this product might be for users who use slide-show presentation software, such as Microsoft PowerPoint, Aldus Persuasion or Cricket Presents. A speaker could move around the room more freely, using the cordless mouse to step though a sequence of frames.

The cordless mouse is manufactured in Hong Kong by BMC. Several other vendors will be offering the product under their own labels. (Mobius Technologies, Inc., 6020 Adeline St., Oakland, CA 94608, 415/654-0556.)

MACINTOSH SOFTWARE

WORD PROCESSORS

WRITENOW 2.2

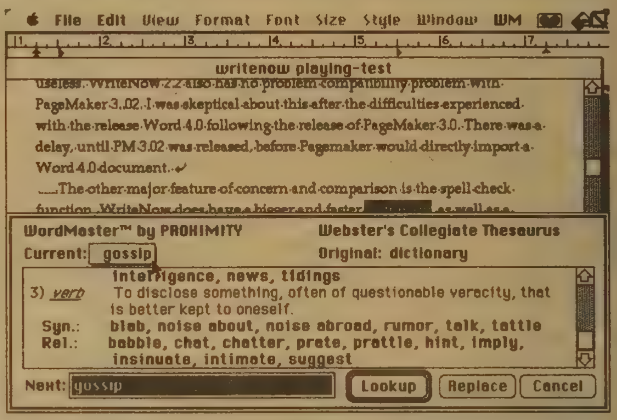
Published By: T/Maker
For: Mac
Suggested Retail: $195
Reviewed By: Michael Robin

Although T/Maker compares WriteNow to other low and mid-range applications, most people I know are really interested in how it compares to Microsoft Word—perhaps the most prevalent word processing program.

WriteNow is a lot more accessible than Word. The manual is clear and concise, and almost everything you need to know is available through the pull-down menus. There are very few hidden options. The few that are, like tab leaders, are easily found and explained in the manual.

WriteNow's much-touted speed is no mere marketing claim, as becomes obvious when you do a word count. WriteNow not only word-counts a document significantly faster than Word, but the function itself is very well-designed. In addition to word, character and paragraph counts, WriteNow also calculates the average characters per word and average words per paragraph. This may not seem important, but these averages often indicate longwinded writing.

Since I'm a Word user, one of my favorite enhancements is the increased compatibility of WriteNow with other formats. It allows you to open or save documents in WriteNow, Text, Text with line breaks, MacWrite, Microsoft/Write or RTF formats. You will not have to make sure you save into Text or RFT to be able to open a Word document in WriteNow. WriteNow 2.2 also has no compatibility problem with PageMaker 3.02—something I was skeptical about after my experiences with PageMaker 3.0 and Word 4.0.



useless. WriteNow 2.2 also has no problem compatibility problem with PageMaker 3.02. I was skeptical about this after the difficulties experienced with the release Word 4.0 following the release of PageMaker 3.0. There was a delay, until PM 3.02 was released, before Pagemaker would directly import a Word 4.0 document.

The other major feature of concern and comparison is the spell check function. WriteNow does have a bigger and faster [illegible] as well as a

WordMaster™ by PROXIMITY
Webster's Collegiate Thesaurus
Current: gossip
Original: dictionary

intelligence, news, tidings
3) *verb* To disclose something, often of questionable veracity, that is better kept to oneself.
Syn.: blab, noise about, noise abroad, rumor, talk, tattle
Rel.: babble, chat, chatter, prate, prattle, hint, imply, insinuate, intimate, suggest

Next: gossip

WordMaster Thesaurus provides several definitions and the synonyms, antonymns and related words for each definition. It also displays the original, the current word looked-up and a summary in a pop-up menu.

Also good are the new Thesaurus and Dictionary. WriteNow does have a bigger dictionary than Word 4, as well as a smaller "pocketbook" dictionary for users with limited space on their Mac, a dictionary of "buzz

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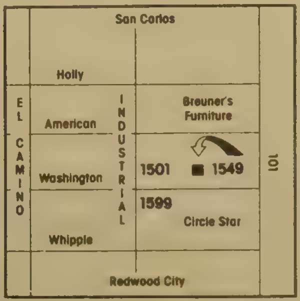

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It takes only a few clicks to run Galileo's experiment in Interactive Physics.

words" and an empty dictionary for you to build your own specialized dictionary. WriteNow 2.2 also remembers words that you tell it to ignore but do not want to add to the dictionary.

WriteNow 2.2 includes a 1.4-million-word WordMaster Thesaurus DA. Although it only works with WriteNow, unlike the WordMaster that comes with Word, this feature alone is a good reason to use WriteNow. Not only is a 1.4 million word thesaurus impressive, but more importantly, it is easy to use, has more entries than the thesaurus with Word, and provides more useful information. It shows the word you are looking up, definitions, synonyms, antonyms and related words. For many entries, comparison and contrast entries are presented. WordMaster displays the original word, the current word, and a summary in a pop-up menu.

WriteNow lacks some Word functions: sort, calculate, style sheets, small caps, borders, vertical lines, double and dotted underline, outline and indexing options. T/Maker does not claim to be an all-powerful application, but it clearly stands up well against the "big" guys.

The determined "power user" might want to stick to Word, or perhaps Nisus or FullWrite Professional for specialized features. For the rest of us, WriteNow is near the top, if not at the very top, of the list of word processing applications to use. (T/Maker, 1390 Villa St., Mountain View, CA 94041, 415/962-0195)

ACADEMIC SOFTWARE

INTERACTIVE PHYSICS

Published By: Knowledge Revolution
For: Macintosh (Plus, SE, II or later)
List Price: $495
Reviewed By: Mike Markowitz

"Thought experiments" have played an important role in the history of physics. Consider Galileo's famous experiment from the Tower of Pisa. He supposedly dropped a large cannon ball and a small one at the same instant. Aristotle had written, and everyone believed, that a heavy object falls faster than a light one, because the earth attracts it with a greater force. Actually, the earth attracts every object with sufficient force to make it fall 32 feet during the first second, 64 feet during the next second, and so on. The everyday experience of the effects of air resistance prevented people from realizing this simple truth. In the air, a stone falls faster than a feather, but in a vacuum, both fall at the same rate.

It takes only a few clicks to set up and run this experiment in Interactive Physics. You can even vary the force of gravity—something even the best-equipped earthbound laboratory cannot manage.

Interactive Physics is a laboratory on a disk. The package is a deceptively simple Newtonian erector set of forces and masses. It looks very much like any object-oriented drawing program, with a tool palette for making circles, rectangles and polygons. Other objects include ropes, springs, dampers and forces. Menu bar options let you control and alter the force of gravity, air resistance, friction, density and many other variables.

Behind this simple exterior lies a powerful simulation model and a sophisticated animation engine. At the beginning of each time step, the program calculates all forces acting on the objects you created. The objects are moved accordingly until the end of the time step, and a snapshot of the resulting situation is used to create a frame of the animation. A time step can be any value between 0.001 sec. and one second. Using the metaphor of a tape player, the program lets you

continued

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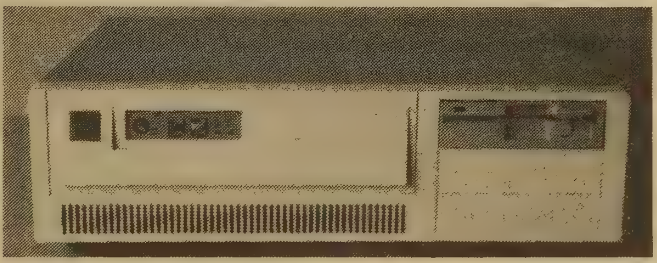

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run the experiment at different speeds, freeze the action, or even run it backwards. You can also turn on "tracking" which leaves an imprint of each moving object on the screen.

To help analyze the results of your experiments, the program provides 17 different kinds of "Meters" to display variables or properties of interest, such as acceleration, momentum, and torque. Any meter can be shown as a digital read-out, an analog gauge, or a strip-chart, and you can even adjust the sensitivity range.

The "world" of Interactive Physics is Flatland—the imaginary two-dimensional space that is so much easier to manage, computationally, than the three-dimensional reality we inhabit. The scale of the program is variable, but the default "world" size is a ten-meter square. The present program does not model orbital mechanics—the computational burden would require a math co-processor, ruling out the Mac Plus as a platform. This feature is under consideration for a possible future version of the program.

Demonstration files on the program disk include "Chaotic pendulum"—three weights tied together with ropes in a deceptively simple system that quickly becomes disorderly, and "Falling stack" which models a very difficult problem—at what point will a falling smokestack snap into two pieces? Along with the program disk, there is an "Experiments" disk containing a large number of carefully crafted examples, organized in folders that correspond to major topics in the Physics curriculum.

An illustrated 103-page manual provides clear explanations of the program's many options. Step-by-step tutorials guide the new user through the operation of the program. A basic knowledge of high-school physics is assumed.

The program was written in Object Pascal using Mac App. Certain time-critical routines were coded in assembly language. Interactive Physics was created by Martin Eisenmann, a student of physics and computer science (age 22) and David Baszucki, an electrical engineer (age 26).

Registered owners of the program receive occasional mailings of Physics Interactions, a disk containing problems or experiments created with the program, along with supporting lesson material in MS Word format.

Interactive Physics is a powerful argument for buying a Macintosh for classroom use in any college or high school science program. I have attended two different presentations where top Apple executives showed off the program as an example of what Macintosh can do better than any other computer. Not bad for the first product of a small software company. (Knowledge Revolution, 2121 South El Camino Real, Suite 515-H, San Mateo, CA 94403, 415/377-1940)

The Playroom indicates that we are finally seeing preschool software worthy of the computers it runs on.

GAMES

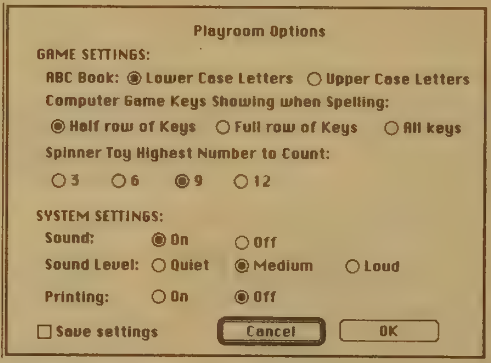
By Mike Markowitz

This new monthly column will review notable new games, mainly in the MS-DOS, Macintosh and Apple II arenas. Your comments and suggestions are welcome.

THE PLAYROOM

Published By: Brøderbund
For: Mac, PC, Apple II
Suggested Retail: Apple II $39:95; Macintosh $49.95; IBM PC/Tandy $44.95

Software for kids is usually disappointing, both in the shortage of titles and the poverty of imagination. Blame unrealistic parental expectations, limitations of the technology, or lack of standards. The Playroom indicates that we are finally seeing preschool software worthy of the computers it runs on. "Brøderbund is a relatively young company with young employees, and many of us are now having children of our own. The Playroom is the type of program we want for our own children," says the press release.



Playroom Options

GAME SETTINGS:

ABC Book: ● Lower Case Letters ○ Upper Case Letters

Computer Game Keys Showing when Spelling:

● Half row of Keys ○ Full row of Keys ○ All keys

Spinner Toy Highest Number to Count:

○ 3 ○ 6 ● 9 ○ 12

SYSTEM SETTINGS:

Sound: ● On ○ Off

Sound Level: ○ Quiet ● Medium ○ Loud

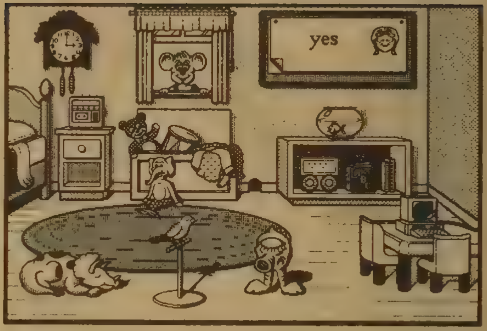
Printing: ○ On ● Off

☐ Save settings

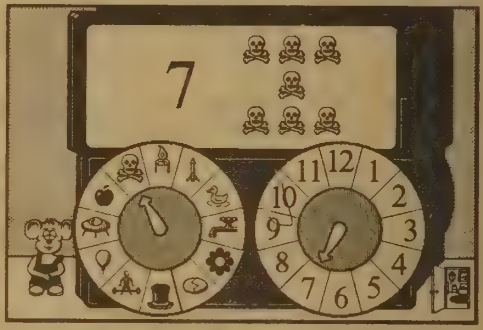
Designed for ages 3 to 7, Playroom offers a variety of difficulty settings.

The Playroom is designed for ages 3 to 7, with variable difficulty. It reinforces skills of telling time, relating the alphabet to the keyboard, counting, and reasoning. Careful thought went into creating a sense of discovery and empowerment. Equal care went into "child-proofing" the program, to protect other files on the family computer.

The Mac version is limited to the small monochrome screen, and requires 1Mb of memory. The 8-bit Apple II version has 16 colors and needs 128K; the IBM PC-compatible version needs 512K and supports all standard video modes including VGA.



Playroom's main screen, with Pepper Mouse, the imaginary playmate, peeking in the window.



The Mac version of playroom uses digitized speech to aid the educational process.

Playroom's main screen shows a corner of a bedroom. A cuckoo clock hangs on the wall. You see a bookcase, a toy chest, a computer, a baby dinosaur curled up on the rug, and other things to examine or explore. Pepper Mouse, the program's mascot and imaginary playmate, looks in at the curtained window. Brøderbund's programmers excel at animation; the effects are amusing and realistic. Click on a drawer, for example—it slides open and a balloon floats out. The Macintosh version uses digitized speech—one reason the program spills over onto a second disk. The application is only 160K; graphic and sound resources add over 1240K!

The Playroom uses "key-disk" copy protection; it will not run unless you insert the original disk. Brøderbund has always been hawkish about piracy, but this is a serious problem in a package intended for little hands, sticky with peanut butter. If the program disk becomes damaged, a replacement costs $15. Disk-based copy protection is obsolete; Brøderbund needs to rethink this unwise policy. (Brøderbund, 17 Paul Drive, San Rafael, CA 94903, 800/521-6263)

COSMIC OSMO

Published By: Activision
For: Macintosh
Suggested Retail: $69.95

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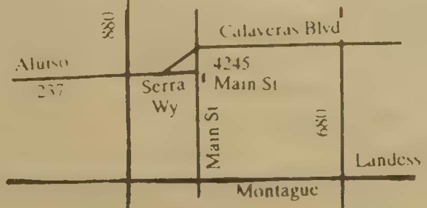

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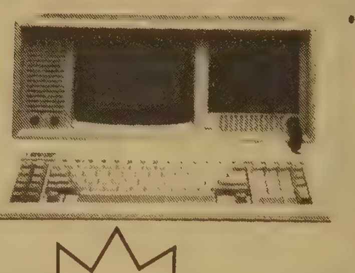

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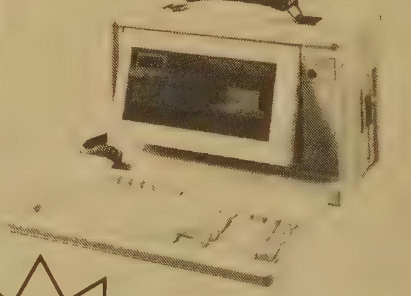

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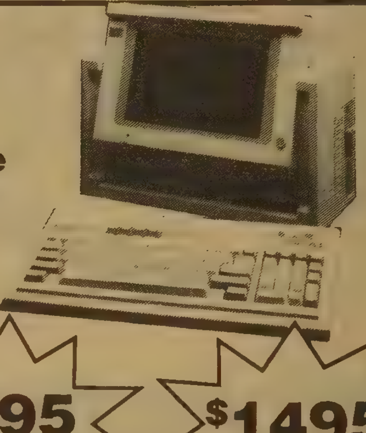

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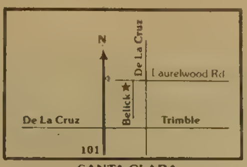

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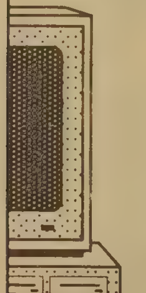

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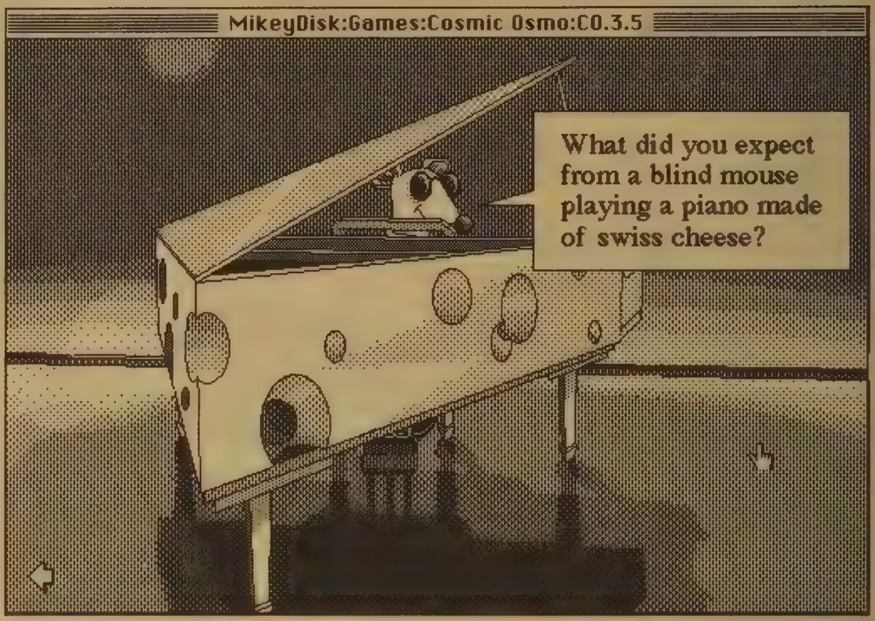

MikeyDisk:Games:Cosmic Osmo:C0.3.5
What did you expect from a blind mouse playing a piano made of swiss cheese?

Cosmic Osmo is a playful, humorous, HyperCard space adventure.

evolution of reptiles—at some point, bigger and bigger sizes started to seem like a good idea.

It wasn't.

Originally published by Activision (1989), Cosmic Osmo is a gargantuan set of HyperCard stacks that fill six floppy disks. When you get everything installed, it totals 104 files, or 3,965K on disk—almost 4Mb. The game is a playful, humorous space adventure, almost without words, but filled with interesting puzzles. The program includes the VideoWorks HyperCard driver, and there are some wonderful animation sequences. Unfortunately, Osmo crashed and locked up so much that I lost interest after a few hours.

HyperCard is a good substitute for a programming language, but it is not a viable development environment for a project of this magnitude. Nevertheless, sometimes it is better to fail at something grand, than to succeed at something wimpy. Activision has apparently abandoned the Macintosh, but I hope the team that created Cosmic Osmo (Cyan Productions) will not abandon the design of computer entertainments. (Activision, 3885 Bohannon Drive, Menlo Park, CA 94025, 415/329-0500)

THE DUEL (TEST DRIVE II)

Published By: Accolade
For: Macintosh, Apple IIGS, PC and compatibles
List Prices: $54.95 (Mac); $49.95 (Apple IIGS); $49.95 (PC and compatibles)

The Duel simulates racing the Ferrari F40 against the Porsche 959. The Macintosh version is limited to the monochrome small screen; a joystick is highly recommended. You can steer and accelerate with the numeric keypad, but somehow that doesn't feel much like a Ferrari, or even a Yugo.

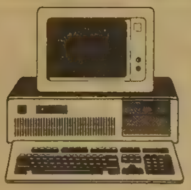
A growing series of inexpensive add-on disks enhance the play value of the game. The Supercars include awesome vehicles like the Ferrari Testarossa, Lamborghini Countach and '89 Corvette ZR1. The Muscle Cars lets you race legends like the '68 Shelby Cobra, '67 Pontiac GTO, and '69 Dodge Daytona. California Challenge is a scenery disk that covers the Golden State from the North Coast redwoods to the Mexican border. European Challenge adds the French Riviera, the Swiss Alps and the German autobahns.

The Mac version of the program allows a limited number of hard-disk installations. The car and scenery disks are not copy protected. The jazzy music and vroom-vroom sound effects can be separately toggled on or off. The program keeps detailed performance records. Documentation is minimal. You can crash and die, run out of gas, or even get pulled over by the Highway Patrol. Art imitates life. (Accolade, 550 S. Winchester Blvd., San Jose, CA 95128, 408/985-1700)

continued on page 178

WE WON'T BE UNDERSOLD ! THE BAY AREA'S LOW COST LEADER

DCP 8088-10 DESKTOP SYSTEM



4/10 MHZ MOTHERBOARD
LANDMARK 12 MHZ
640K RAM MEMORY
MULTI I/O S. P. G. & CLOCK/CAL
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101 ENHANCED KEYBOARD
HERCULES COMP. VIDEO
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DCP 8088-10

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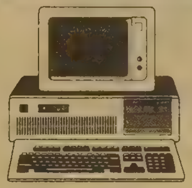
20 MB	579	909	909	1099
42 MB	749	1089	1089	1269
65 MB	799	1139	1139	1319

DCP286-12 MHZ DESKTOP SYSTEM



6/12 MHZ MOTHERBOARD
LANDMARK 16 MHZ
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20MB	669	1009	1009	1189
42 MB	839	1189	1189	1369
65 MB	890	1239	1239	1419

DCP 80286-16 MHZ DESKTOP SYSTEM

6/16MHZ MOTHERBOARD
LANDMARK 21.4MHZ
1 MEGABYTE RAM MEMORY
CLOCK & CALENDAR
HD/FD CONTROLLER
I/O CARD S. P. & G. PORTS
1.2MB FLOPPY DRIVE
101 ENHANCED KEYBOARD
HERCULES COMP. VIDEO
12" AMBER MONITOR T & S
AT STYLE CASE W/LEDS
200 WATT POWER SUPPLY

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DCP 80286-16 MHZ DESKTOP SYSTEM

	MONO	EGA	VGA	MULTI SCAN
20 MB	829	1179	1179	1349
42 MB	1009	1359	1359	1529
65 MB	1059	1409	1409	1579

386 HEADQUARTERS 386 HEADQUARTERS 386 HEADQUARTERS

DCP 80386SX-16 MHZ DESKTOP SYSTEM

6/16 MHZ MOTHERBOARD
LANDMARK 21 MHZ
1 MEGABYTE RAM MEMORY
CLOCK & CALENDAR
1 TO 1 HD/FD CONTROLLER
I/O CARD S. P. & G. PORTS
1.2MB FLOPPY DRIVE
101 ENHANCED KEYBOARD
HERCULES COMP. VIDEO
12" AMBER MONITOR T & S
AT STYLE CASE W/LEDS
200 WATT POWER SUPPLY

$779

DCP 80386-16 MHZ

	MONO	EGA	VGA	MULTI SCAN
20 MB	929	1269	1269	1449
42 MB	1109	1449	1449	1629
65 MB	1139	1499	1499	1679

DCP 80386-20 MHZ DESKTOP SYSTEM

6/20 MHZ MOTHERBOARD
LANDMARK 28 MHZ
1 MEGABYTE RAM MEMORY
CLOCK & CALENDAR
1 TO 1 HD/FD CONTROLLER
I/O CARD S. P. & G. PORTS
HERCULES COMP. VIDEO
12" AMBER MONITOR T & S
1.2 MB FLOPPY DRIVE
101 ENHANCED KEYBOARD
AT STYLE CASE W/LEDS
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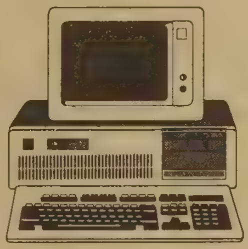
$1079

DCP 80386-20 MHZ

	MONO	EGA	VGA	MULTI SCAN
20 MB	1269	1639	1639	1769
42 MB	1439	1769	1769	1939
65 MB	1489	1819	1819	1989

DCP 80386-25 MHZ W/64K CACHE DESKTOP SYSTEM



6/25 MHZ MOTHERBOARD W/62K CACHE MEMORY
LANDMARK 43.6 ! ! ! !
1 MEGABYTE RAM MEMORY
CLOCK & CALENDAR
1 TO 1 HD/FD CONTROLLER
I/O CARD S. P. & G. PORTS
HERCULES COMP. VIDEO
12" AMBER MONITOR T & S
1.2 MEGABYTE FLOPPY DRIVE
101 ENHANCED KEYBOARD
AT STYLE CASE W/LEDS
200 WATT POWER SUPPLY

$1469

DCP 80386-25 MHZ W/64K CACHE

	MONO	EGA	VGA	MULTI SCAN
20 MB	1619	1939	2109	2109
42 MB	1779	2109	2109	2269
65 MB	1829	2149	2149	2319

DCP 80386-33 MHZ W/64K CACHE DESKTOP SYSTEM

6/33 MHZ MOTHERBOARD W/64K CACHE MEMORY
LANDMARK 58 MHZ ! ! ! ! !
1 MEGABYTE RAM MEMORY
CLOCK & CALENDAR
1 TO 1 HD/FD CONTROLLER
I/O CARD S. P. & G. PORTS
HERCULES COMP. VIDEO
12" AMBER MONITOR T & S
1.2 MEGABYTE FLOPPY DRIVE
101 ENHANCED KEYBOARD
AT STYLE CASE W/LEDS
200 WATT POWER SUPPLY

$1639

DCP 80386-33 MHZ W/64K CACHE

	MONO	EGA	VGA	MULTI SCAN
20 MB	1779	2109	2109	2269
42 MB	1949	2269	2269	2439
65 MB	1999	2319	2319	2479

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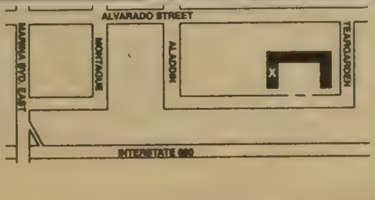

RESOURCES

Calendar Of Events

MAY

May 14 Using X Windows Class. Berkeley. Lurnix. Call: 1-800-433-9338.

May 14 How To Build Your CAD System Seminar. San Francisco. San Francisco State University Extended Education. Call: (415)338-1205.

May 14 Microsoft Word Level 1 Class. San Francisco. PC Etcetera. Call: Lee Van Sluyters, (415)291-8585.

May 14 Microsoft Excel Session 1 Course. San Francisco. Training Works. Call: (415)243-0100.

May 14 Lotus 1-2-3 (2.X) Graphics Course. San Francisco. Training Works. Call: (415)243-0100.

May 15 Apple II/Mac Computer Swap. Sacramento. Call: (916)752-0228.

May 24

International Semiconductor Manufacturer Science Symposium

Santa Clara

Four non-profit professional associations are collaborating to broadcast the highlights of the 1990 International Semiconductor Manufacturer Science Symposium (ISMSS). This videoconference is designed for manufacturing personnel involved in day-to-day operations, planning and training in semiconductor industries. Feature papers will include such topics as Technology Transfer Through Distance Learning Programs, Emerging Paradigms in R&D, as well as the status of manufacturing in Europe and Japan. ISMSS coincides with SEMICON WEST, the annual semiconductor trade show.

Three live question-and-answer periods will interrupt the five hour broadcast. Individuals are invited to be part of the live audience in San Jose. Silicon Valley-based companies interested in receiving the videoconference on site can call: (408)446-0434.

May 15 Introduction To Hypercard Course. San Francisco. Computer Alliance. Call: (415)771-1671.

May 15 Lotus 1-2-3 Release 3.0 Level 1 Class. San Francisco. PC Etcetera. Call: Lee Van Sluyters, (415)291-8585.

May 15 Paradox Session 2 Course. San Francisco. Training Works. Call: (415)243-0100.

May 15–16 X Windows Programming I Course. Berkeley. Lurnix. Call: 1-800-433-9338.

May 15–17 Mechanical Design & Drafting Seminar. San Francisco. San Francisco State University Extended Education. Call: (415)338-1205.

May 16 Microsoft Word, Part II Course. San Francisco. Computer Alliance. Call: (415)771-1671.

May 16 PageMaker, Part I Course. San Francisco. Computer Alliance. Call: (415)771-1671.

May 16 Microsoft Word On The Macintosh Level 1 Class. San Francisco. PC Etcetera. Call: Lee Van Sluyters, (415)291-8585.

May 16 Lotus 1-2-3 (2.X) Beginning Course. San Francisco. Training Works. Call: (415)243-0100.

May 17 Financing Your Software Company Dinner. Palo Alto. Software Entrepreneurs' Forum. Call: Barbara Class, (415)854-7219.

May 17 Lotus 1-2-3 (2.X) Database Course. San Francisco. Training Works. Call: (415)243-0100.

May 17 Installing Netware 386 Course. Oakland. DataNet. Call: 1-800-879-4181.

May 17 Aldus PageMaker Seminar. Sunnyvale. M & P Computer. Call: Donna, (408)738-8578.

May 17–18 X Windows Programming II Course. Berkeley. Lurnix. Call: 1-800-433-9338.

May 18–20 Animator Seminar. San Francisco. San Francisco State University Extended Education. Call: (415)338-1205.

May 19 Excel For The Macintosh Course. San Francisco. Computer Alliance. Call: (415)771-1671.

May 19 Shop Till Ya Drop Computer Swap. Santa Clara. Richard James. Call: 1-800-433-7469.

May 19 Lotus 1-2-3 Advanced Spreadsheets Course. San Francisco. Training Works. Call: (415)243-0100.

May 19 Troubleshooting A Novell Course. Oakland. DataNet. Call: 1-800-879-4181.

May 19 Computer Show & Sale. Oakland. East-West Computer Shows. Call: (415)388-8893.

May 21 MS-DOS For CAD, Level II Seminar. San Francisco. San Francisco State University Extended Education. Call: (415)338-1205.

May 21 Lotus 1-2-3 Release 2.2 Level 2 Class. San Francisco. PC Etcetera. Call: Lee Van Sluyters, (415)291-8585.

May 21–22 Word Perfect 5.1 Level 2 Class. San Francisco. PC Etcetera. Call: Lee Van Sluyters, (415)291-8585.

May 21–22 Fifth Conference On Artificial Intelligence For Space Applications. Alabama. NASA. Call: 1-800-448-4031.

May 22 Hypercard II Course. San Francisco. Computer Alliance. Call: (415)771-1671.

May 22 Pre-Press Solutions II Conference. San Francisco. Desktop World, Inc. Call: Lindsay Whitting, (415)549-0678.

May 22 WordPerfect 5.0 Session 2 Course.

continued

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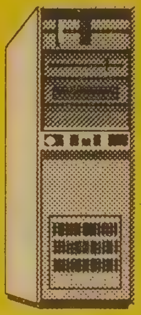

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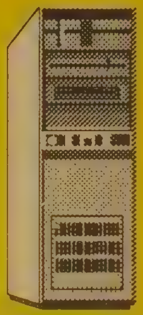

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	BASE	CP3044	CP3184	CP3104
386SX-16	790	1150	1350	1450
386SX-20	890	1250	1450	1550
386-20	1090	1450	1650	1750
386-25	1190	1550	1750	1850

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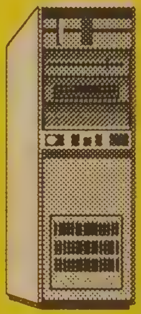
AMI MkII XT 386-20

64K CACHE



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1MB EXP TO 2/4/8MB
101 KEYBOARD
2 SERIAL/1PARALLEL
CONNER CONTROLLER
5 YR LITHIUM BATTERY
1.2MB FLOPPY
FOR 25MHZ-ADD $300

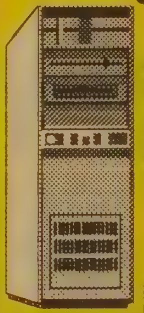
$1390

	BASE	CP3044	CP3184	CP3104
BASE	1390	1750	1950	2050
MONO	1490	1850	2050	2150
VGA	1790	2150	2350	2450
SVGA	1890	2250	2450	2550

MICRONICS

386-25 ASIC/ICP

LM=43.5MHZ



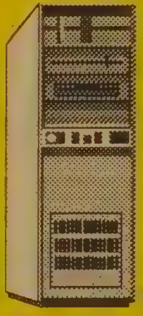
MINI-VERTICAL/DESKTOP
1MB EXP TO 4/8/16MB
101 KEYBOARD
2 SERIAL/PARALLEL
CONNER CONTROLLER
1.2MB FLOPPY

$1690

	BASE	CP3044	CP3184	CP3104
BASE	1690	2050	2250	2350
MONO	1790	2150	2350	2450
VGA	2090	2450	2650	2750
SVGA	2190	2550	2750	2850

ORCHID

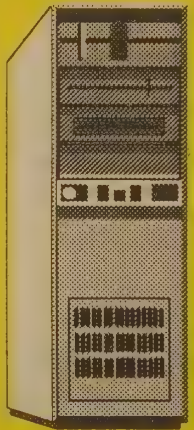
PRIVILEGE 386-25C



2 WAY SET ASSOCIATIVE CACHE
DESKTOP CASE
1MB EXP TO 16MB ON BOARD
101 KEYBOARD
1.2MB FLOPPY
2 SERIAL/PARALLEL
CONNER CONTROLLER
5 YR LITHIUM BATTERY

$1690

	BASE	CP3044	CP3184	CP3104
BASE	1690	2050	2250	2350
MONO	1790	2150	2350	2450
VGA	2090	2450	2650	2750
SVGA	2190	2550	2750	2850



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1MB 386-33MHZ	BASE	CONNER 84MB	CONNER 105MB	CONNER 200MB
AMI MkII 386-33	2150	2750	2850	3150
MICRONICS 386-33 ICP	2050	2650	2750	3050
HAWK/FC/ECS 386-33C	1750	2350	2450	2750

486
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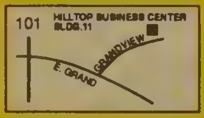

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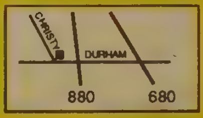

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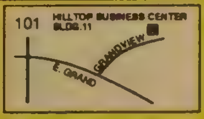

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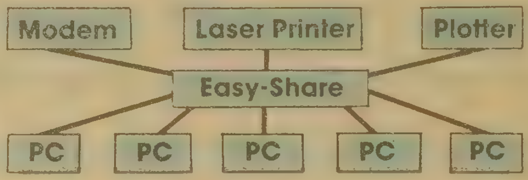

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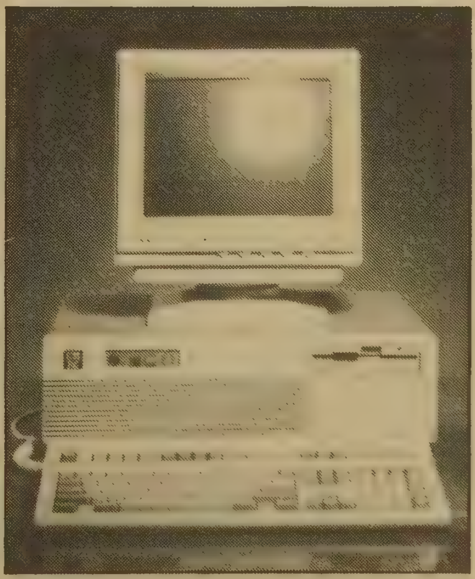

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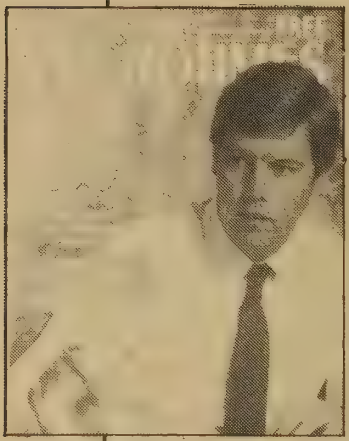

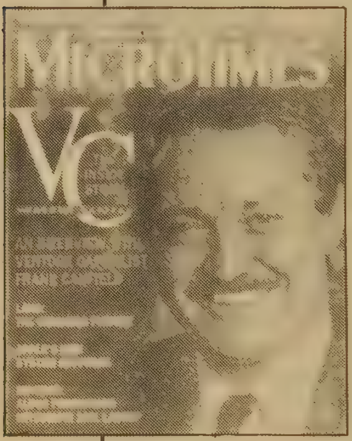

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June 5 Macintosh Hypercard Course. San Francisco. Training Works. Call: (415)243-0100.

June 5–8 C Advanced Programming & Data Structures Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

June 6 MacDraw II On The Macintosh Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 6 Microsoft Excel Session 2 Course. San Francisco. Training Works. Call: (415)243-0100.

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June 12 In–House Training Presentation. Cupertino. IICS. Call: (408)866-7941.

June 12 PowerPoint Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 12 dBASE III+ Session 1 Course. San Francisco. Training Works. Call: (415)243-0100.

June 12–13 X Windows Programming I Course. Berkeley. Lurnix. Call: 1-800-433-9338.

June 12–15 Introduction To ISDN Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421–8166.

June 13 Transaction Processing Course. Sunnyvale. SVNet. Call: Ralph Baker, (408)986-8840.

June 13 Aldus PageMaker Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 14–15 X Windows Programming II Class. Berkeley. Lurnix. Call: 1-800-433-9338.

June 15 Microsoft Excel On The Macintosh Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 15 Fourth Dimension Course. San Francisco. Training Works. Call: (415)243-0100.

June 15–17 AppleFiesta '90. Tempe, AZ. AzApple/Mac User Group. Call: (602)943-2020.

June 16 Computer Mart. Cupertino. De Anza College. Call: (408)864-8581.

June 16 IBM PC Clone Troubleshooting And Repair Class. Oakland. Excel Micro Solutions. Call: (415)836-2040.

June 17 Computer Show & Sale. Sacramento. East-West Computer Shows. Call: (415)388-8893.

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June 19 Lotus 1-2-3 (2.X) Graphics Course. San Francisco. Training Works. Call: (415)243-0100.

June 19–21 Eighth Annual PC Expo. New York. H.A. Bruno, Inc. Call: Mark A. Haviland, 1-800-444-3976.

June 19–22 SQL: A Hands-On Workshop Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421–8166.

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w/ 80 MB hard drive	$1049	$1139	$1189	$1289	$1439	$1499	$1399
SX16386 (386SX/16)							
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w/ 40 MB hard drive	$999	$1089	$1139	$1239	$1389	$1449	$1349
w/ 65 MB hard drive	$1099	$1189	$1239	$1339	$1489	$1549	$1449
w/ 80 MB hard drive	$1249	$1339	$1389	$1489	$1639	$1699	$1599
w/ 105 MB hard drive	$1419	$1509	$1559	$1659	$1809	$1869	$1769
w/ 150 MB hard drive	$1699	$1789	$1839	$1939	$2089	$2149	$2049
AX20386 (386/20)							
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w/ 80 MB hard drive	$1449	$1539	$1589	$1689	$1839	$1899	$1799
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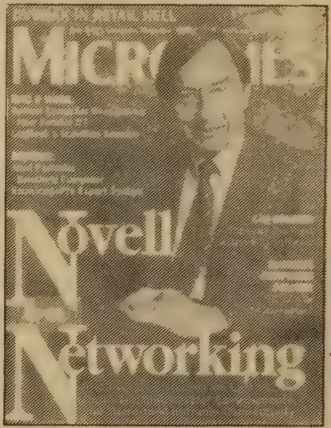

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June 21 dBASE III+ Session 2 Course. San Francisco. Training Works. Call: (415)243-0100.

June 22 Introduction To The Macintosh Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 23 dBASE III+ Session 1 Course. San Francisco. Training Works. Call: (415)243-0100.

June 23 Computer Show & Sale. Hayward. East-West Computer Shows. Call: (415)388-8893.

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June 26–29 OS/2: A Comprehensive Hands-On Introduction Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

June 27–July 25 Aurora 220 Broadcast Paint Course. San Francisco. Computer Arts Institute. Call: (415)546-5242.

June 28 FileMaker Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 29 Aldus PageMaker Class. San Ramon. Adelphi Corporation. Call: Tom Phipps, (415)275-1188.

June 29 dBASE III+ Session 1 Course. San Francisco. Training Works. Call: (415)243-0100.

JULY

July 9–10 Fundamentals Of UNIX Class. Berkeley. Lurnix. Call: (415)849-4478.

July 10 Basics To Interactive Media Presentation. San Francisco. IICS. Call: (408)866-7941.

July 10–13 Object-Oriented Design & Programming Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

July 11–12 Intermediate UNIX Class. Berkeley. Lurnix. Call: (415)849-4478.

July 11–13 Dynamic 3-D Computer Graphic Systems For Industrial Design Conference And Exposition. Monterey. BIS CAP International. Call: Kathy Greeley, (617) 893-9130.

July 14 De Anza College Computer Mart. Cupertino. De Anza College. Call: (408)864-8350.

July 16–20 SIAM Annual Meeting. Chicago. Society for Industrial and Applied Mathematics. Call: Diana Pierce, (215)382-9800.

July 17–18 X Windows Programming I Class. Berkeley. Lurnix. Call: 1-800-433-9338.

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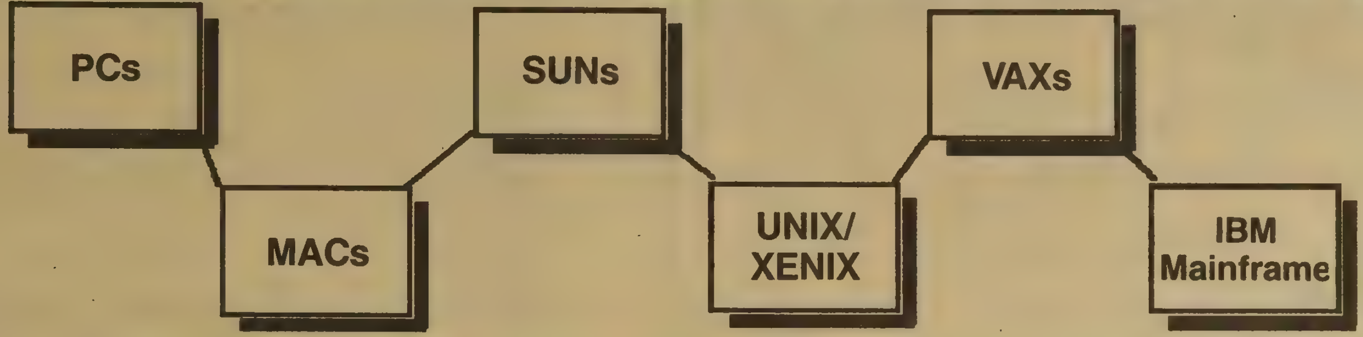

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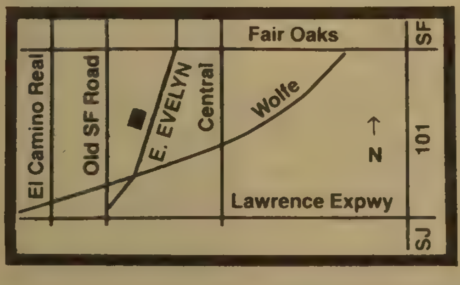

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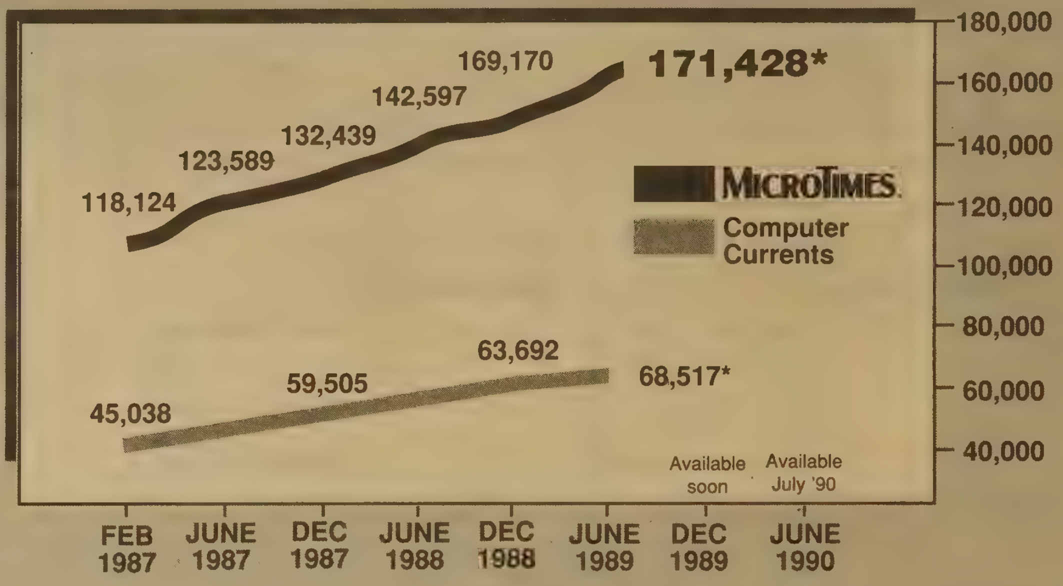

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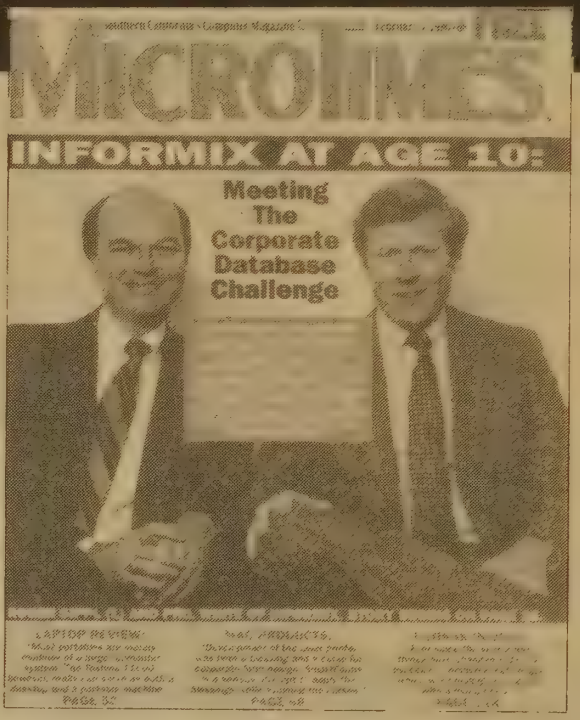

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The Publisher's Statement for each magazine is the source of the figures and classifications immediately above. The data in the BPA statement have been re-grouped for this analysis.

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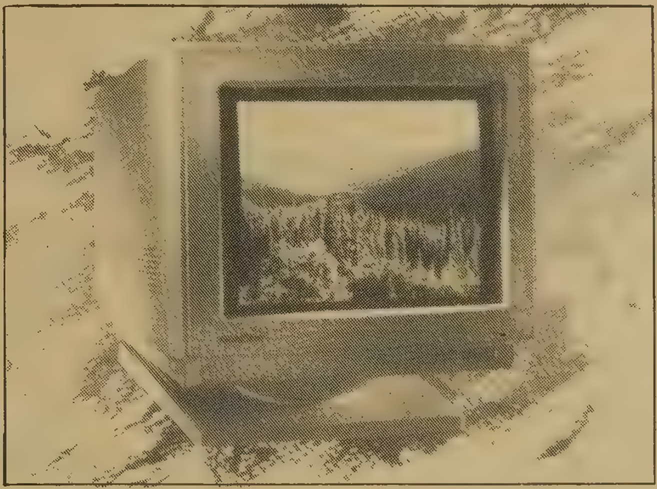

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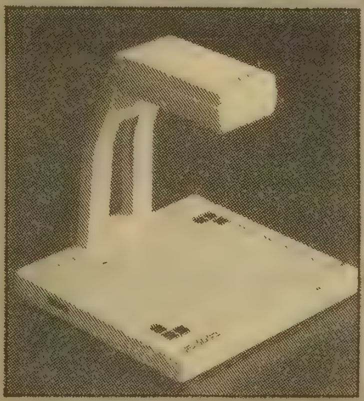

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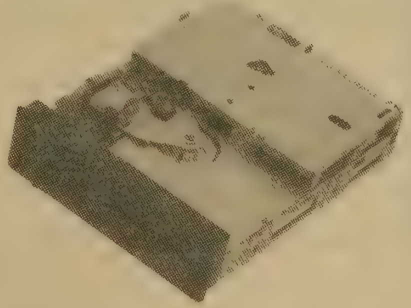

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July 22–August 3 Stanford Professional Publishing Course. Palo Alto. Stanford University. Call: Bill Merz, (415)725-1083.

July 24 Automating Your Business Systems On The Macintosh Seminar. San Francisco. J.C. Lukrich & Co., CPA. Call: Suzette, (415)864-6770.

July 24–27 System Engineering Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

July 27–29 The American Association Of Artificial Intelligence 1990 Spring Symposium. Palo Alto. Computer-using Educators. Call: Beverly Woolf, (413)549-6036.

July 30–August 2 Introductory C Programming Class. Berkeley. Lurnix. Call: 1-800-433-9338.

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Sun Expo '90

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August 7–10 Network Planning Support & Management Course. San Francisco. Integrated Computer Systems. Call: John Valenti, 1-800-421-8166.

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August 19 Computer Show & Sale. Sacramento. East-West Computer Shows. Call: (415)388-8893.

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PRODUCT SPOTLIGHT

continued from page 160

The computer can play either side of a battle. The computer opponent is programmed to snatch every possible victory point.

HALLS OF MONTEZUMA

Published By: Strategic Studies Group
For: Mac, PC, Apple II
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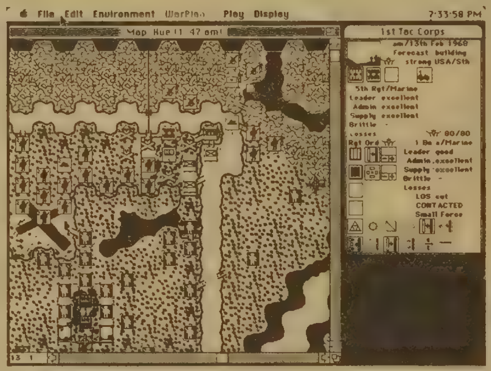
Halls of Montezuma is the best Macintosh implementation of the style and feel of tactical wargaming. The design team of Roger Keating, Ian Trout, Andrew Taubman, Malcolm Power and Gregor Whiley, successfully converted a game system developed for 8-bit computers (Apple II, Commodore 64) to take advantage of the higher speed and superior graphics found on 16- and 32-bit computers (Amiga, Macintosh, Apple IIGS).

The game offers a choice of seven battles from the long history of the U.S. Marines: Mexico City 1847, Belleau Wood 1918, Iwo Jima 1945, Okinawa 1945, Pusan Perimeter 1950, Inchon 1950, and Hue (The Tet Offensive) 1968.

Each battle has monochrome and color versions. On a large monitor, the program can display full-screen map windows. The game is playable on the small Mac Plus or SE monitor, but you have to scroll around a lot to get the tactical Big Picture.



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Halls of Montezuma lets you fight the 1950 battle at Inchon all over again.

The computer can play either side of a battle. In fact, it can play both sides, while you sit back and enjoy the mayhem. The computer opponent is programmed to snatch every possible victory point. Victory conditions are based on relative casualties and possession of key objectives.

The game system gives the player command of up to three divisions. Each division consists of several regiments, and each regiment contains several battalions, which are the basic fighting units. Using a floating palette of selection buttons and command icons, you assign missions and resources to your battalions—deploy, delay, defend, support, probe, prepare, assault, exploit. Regiments with attack orders will move toward objectives you assign; regiments with defensive missions try to protect their assigned objectives.

Halls of Montezuma fills two 800K disks. The program includes a "construction set" that lets you modify the battles, or design your own. Documentation for this feature is incomplete, however. The manuals are well-produced, but poorly written. SSG cut corners by trying to make one set of manuals cover Amiga, Macintosh and Apple IIGS versions. Bad idea.

SSG's next Macintosh releases will be Decisive Battles of the American Civil War: Volume Two, which includes Gettysburg, and Panzer Battles, which recreates tank warfare on the Russian Front. (Strategic Studies Group, 1747 Orleans Court, Walnut Creek, CA 94598, 415/932-3019) ■

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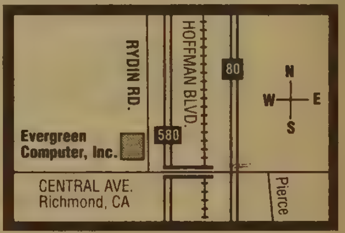

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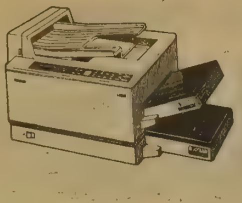

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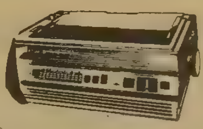

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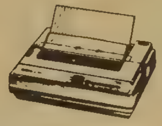

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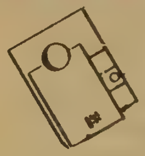

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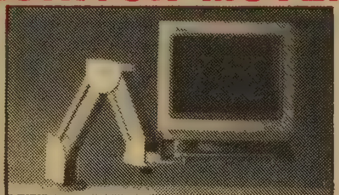

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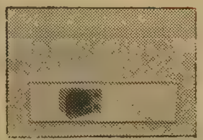

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Cruzio. (408)423-9995. 1200/2400. If dialing in @ 1200 baud, send a BREAK (CHC) on connect. [Exp. #71.]

DATATYPE BBS. (408)985-7718. 8-N-1, 300/1200/2400. Operated by the Silicon Valley dBASE Language Group. [Exp. #70.]

Digital Sanctum. (408)462-0563. 24 hrs., 300/1200/2400. Dedicated to Amiga & Mac users. Software libraries, Topical msg. boards, email, live games. Sysop: Bryan Thompson. 408-462-5637. [Exp. #70.]

Diversified I/O BBS. (408)745-7026. 8-N-1, 300/1200/2400. For the Macintosh. Sysop: Diversified I/O, Inc. [Exp. #70.]

Fort Knox. (408)335-4229. 24 hrs., 300/1200/2400. Games, files and good company in the Santa Cruz Mts. Sysop: Tim Bowden. [Exp. #71.]

Hot City. (408)848-6681. 8-N-1, 300/1200/2400. Amiga/IBM, multi-line, 200Mb U/D space, online games, CB simulator, tech support for video arcade games. Sysop: Randy Norton/Hot Head. Voice: (408)848-4480. [Exp. #70.]

Midnight Express. (408)248-2352. 24 hrs., 50 door games, 337Mb, 2 nodes. [Exp. #71.]

NetCom Services. (408)249-2090 (2400/1200); (408)249-0576 (Telebit 9600). 8-N-1, 24 hrs. Unix Public Access, USENET, C/Bourne/Korn Shell, Public Domain software, compilers, email, UUCP. Log in as guest with no password. Sysop: Bob Rieger. [Exp. #70.]

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P.I.E. BBS. (408)733-4670. Sysop: Clay Walker. [Exp. #71.]

Pyrzqxgl. (408)476-4633. 300/1200/2400. Discussions, fiction, journals, articles and mail. Tree-structures. Sysop: Tane' Tachyon. [Exp. #70.]

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TelePlay FRP. (408)262-4488, 241-4114. 300. 15-line, interactive, real-time D&D, like Gemstone but NO hourly charge. Sysop: Marquee. (408)262-4942. [Exp. #70.]

The Intersteller BBS. (408)356-3886. 8-N-1, 6pm-8pm, 300/1200/2400. 2-lines. If line 1 is busy, call director on line 2. If you reach it, you must dial "3" to reach the BBS. [Exp. #71.]

The Secret Silent BBS. (408)738-3366. 24 hrs., 300/1200/2400. Netmail conferences, game doors. Sysop: Bob Beker. [Exp. #71.]

True Hacker BBS. (408)985-0773. 8-N-1, 300/1200/2400. Public domain source code. Sysop: Bob Matthews. [Exp. #70.]

WhoKnows? BBS. (408)262-3634. 24 hrs., 1200/2400. Netmail conferences, on-line games, disABLED encouraged to call. Sysop: Johnny Bowen. [Exp. #71.]

XBBS. (408)476-4945. 300/1200. Multi-user (4-line), hypertext discussion-oriented BBS. Sysop: Jon Shemitz. [Exp. #70.]

415

& the Temple of the Screaming Electron. (415)935-5845. Sysop: Jeff Hunter. [Exp. #71.]

AAA (Amiga Addicts Anonymous). (415)222-9416. 24 hrs., 1200/2400. Amiga Chat & Pub. Dom. files. MNP4. Sysop: Randy Spencer. [Exp. #70.]

Abacus BBS. (415)587-8062. 300/1200/2400. Atari Bay Area Computer Users Society (Abacus) for 8 bit and ST. [Exp. #71.]

Apple Core BBS. (415)665-7851. 6 am–midnight. On-line games, bulletins, messages, PDs, shareware, and more. [Exp. #70.]

Art/Online! BBS. (415)255-7045. 8-N-1, 300/1200/2400/9600. Forum for all interested in Fine Art, new artists and novices welcome, ansi color support. Sysop: Jim Raridan. [Exp. #71.]

Association for Ethical Employment. (415)365-2486. Fight age discrimination and other like social diseases! Voice: (415)365-3722. [Exp. #70.]

California ConneXion Partyline. (415)927-2739. 8-N-1, 24 hrs., 300/1200/2400. 9 lines, 330 megs, chat, group-chat, email, 25+ pubs, matchmaking, adults only. Registration required. [Exp. #71.]

Career Network International. (415)992-8914, 992-8969. 8-N-1, 300/1200/2400. RideShare USA, JobBank, Success Skills Development, library, conference. Sysop: Victoria Chow. Voice: (415)991-6220 am. [Exp. #71.]

Commodore Connection BBS. (415)458-1005. 24 hrs., 300/1200. X modem/Puter, online games, free. Sysop: Clint. [Exp. #70.]

Compact Disc Exchange. (415)824-7603. 24 hrs., 300/1200/2400. On-line CD exchange network. Buy/sell used CDs and collectable discs. Sysop: Wayne Gregori. Voice: 415-826-9350. [Exp. #70.]

Compu-Pal. (415)538-2040. 8-N-1, 24 hrs., 300/1200/2400. Bible texts, Bible-related programs, conferences, email, and many public domain software and text files. Sysop: Compu-Pal. [Exp. #71.]

Custom Software Service. (415)935-4105. 8-N-1, 24 hrs., 1200/2400/9600 HST. 620Mb, 5000+ files online, 40 user conferences on various subjects, instant access, first call. Sysop: Steve Merenkov. [Exp. #70.]

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Disk Cache. (415)941-2647. Concentration—MS/DOS Utilities of all kinds. For serious users. [Exp. #70.]

ELSA America BBS. (415)588-6286. 24 hrs., 2400. High speed, high performance computer graphic. Computer service bulletin board. Sysop: Walter Haefeker. [Exp. #70.]

Eye Contact BBS. (415)255-5972. 8-N-1, 300/1200/2400. 17-line, chat, email, files, matchmaking, alternative lifestyles. [Exp. #70.]

F.A.U.G. bbs. (415)595-2479. 24 hrs., 300/1200/2400. Amiga support and more. Sysop: Richard Bremer. [Exp. #70.]

Guideboard. (415)864-3856. 24 hrs., 300/1200/2400. Multi-line. Cabbie's Guide to SF. Where to go for restaurants, doctors, auto repair, etc. Sysop: Dick Schwartz. [Exp. #70.]

H.D.M. BBS. (415)682-1371. 24 hrs., 1200/2400. DOS files, msg section. Automotive, stereophonic performance. Sysop: Bill Plein. [Exp # 70].

Heart of Gold. (415)968-3979. 8-N-1, 24 hrs., 300/1200/2400. A venerable tradition. Sysop: Friday Jones. [Exp. #70.]

High Tech Gays/Outreach BBS. (415)572-9594. 8-N-1, 24 hrs., 300/1200/2400. 4-line, security conf. info., echo conf. (HTG_Echo, HTG_Jobs, Bears, Women, AIDS/ARC, TV/TS, Virus_Info., & more), CB char, files, free/open access. Sysop: Sagittarius. [Exp. #71.]

Hot Singles II. (415)939-9001, 8-N-1, 24 hrs., 1200/2400. Sysop: Dave Simpson. [Exp. #70.]

KALW FM Radio BBS. (415)641-4373. 8-N-1, 24 hrs. Features broadcast schedules, updates, listener feedback to program producers and staff. Message traffic. Supports QMail offline readers, MNP v.42 modems. Sysop: Dave Evans. [Exp. #70.]

KayFun Bulletin Board. (415)571-9259. 24 hrs., 300/1200/2400. CP/M and DOS. Sysop: Bob Wallace. [Exp. #70.]

Liberty & Choice. (415)834-0470. 8-N-1, 24 hrs., 300/1200/2400. Sysop: S.A. Gibson. [Exp. #70.]

Macintosh Application Group. (415)751-9185, 24 hrs., 1200. Sysop: A.D. [Exp. #70.]

Nightingale. (415)731-2422. Fidonet 1:10/475 Signet 26:1415/0. A general nursing BBS, open to all. "Medfiles," medical and nursing echomail, and "Medware" continuing education programs. Sysop: Jim Rankin. [Exp. #70.]

Opportunity Network BBS. (415)673-4080. Jobs/candidates for computer professionals. Also, The Consultant's Club. Sysop: Kathleen McMahon. Voice: (415)673-0802. [Exp. #71.]

Over My Dead Body BBS. (415)465-7739. 8-N-1, 24 hrs., 300/1200/2400. RBBS system for mystery fans. Sysop: Cherie Jung, (415)893-6707. [Exp. #70.]

Perfect Match BBS. (415)255-6088. 8-N-1, 300/1200/2400. Multi-line, chat, email, files, matchmaking, registration required. [Exp. #70.]

Phosphor BBS. (415)794-4095. 300/1200/2400. 4-lines chat, games, tech support. [Exp. #70.]

Quasatron BBS. (415)734-0444. 8-N-1, 24 hrs., 300/1200/2400. [Exp. #71.]

Recovery BBS. (415)255-2188. 300-9600. AA, NA, Al-Anon/ACA, SLAA, Recovery and 12 Step Echos. Fido 125/9. [Exp. #70.]

RSVP BBS. (415)659-9169. Amiga, IBM, British science fiction, est. 1983. [Exp. #71.]

Running Wyld. (415)368-5685, 24 hrs., 1200/2400/9600 baud; (415)365-9079, 1200/2400 baud; 398Mb, 70Mb graphics. Free access and downloading. [Exp. #71.]

SCV-TIPC, Silicon Valley Refuge of TI Pro Users. (415)969-5643. 8-N-1, 24 hrs., 300-2400. [Exp. #70.]

SFPCUG. (415)621-2609. 8-N-1, 1200-9600. On-line shopping, 50+FREE message areas, member ul/dl. Sysop: Voice: (415)621-1908. [Exp. #70.]

Skeptic's Board. (415)648-8944. Paranormal/fringe science issues, Bay Area Skeptics, recording: (415)LA-TRUTH. Sysop: Rick Moen. [Exp. #71.]

StarComm BBS. (415)922-5628. 300/1200/2400. ANSI/NON-ANSI supported. MS-DOS NetMail, over 300 downloadable files, doors, games. Sysop: Starbuck. [Exp. #70.]

TelePlay FRP. (415)968-0729, 659-7978. 300. 15-line, interactive, real-time D&D, like Gemstone but NO hourly charge. Sysop: Marquee. (408)262-4942. [Exp. #70.]

The Apple Core. (415)665-7851. 1200.

The Automated Bar. (415)894-2536. 8-N-1, 24 hrs., 1200. Free law-oriented board sponsored by the Bar Assoc. of San Francisco's Law Office Automation Section. Sysop: Ernest Schaal.

The Big Board. (415)824-7952. 8-N-1, 300/1200/2400. For large, fat, buxom and burly people and their lovers and allies; on-line gathering place for NAAFA and other large peoples' groups. Sysop: Avery. [Exp. #71.]

The California Information Exchange. (415)365-2486. 24 hrs., 2400. The Accountability Project. Job problems, big brother, etc. Fight back. Sysop: Gerhard Flemming. [Exp. #70.]

The City Of Seven Hills. (415)776-3451. 10 pm–9 am, 300/1200. Message bases, a database and a user interest log where the computer matches users of like interests; a game section. Accepts all parity settings. Sysop: Jim Beliakoff. [Exp. #70.]

The Philosopher's Stone RBBS. (415)487-9375. 25 conferences, including paganism, ecology, philosophy, politics, ferrets, AA. [Exp. #70.]

The Pilgrim. (415)731-2422. "Town Meeting" BBS: current events, spirituality, and homosexuality from a Catholic perspective. Sysop: Jim Rankin. [Exp. # 70.]

Twelfth Night. (or what you will). (415)567-0217, 567-5094. Hermes BBS, 2-lines, 80Mb, Macintosh, Apple II, IBM, general interests. [Exp. #71.]

Wetware Diversions. (415)753-5265. 8-N-1, 24 hrs., 1200/2400. Multi-line, PC Pursuitable, San Francisco's Public Access UNIX System. Sysop: Christopher Cilley. [Exp. #70.]

Wishing Well. (415)745-7901. 24 hrs., 300/1200/2400. Message, email, games, files, matchmaking, no fee. Sysop: MaryLou White. [Exp. #71.]

707

Jim's Beta Suprise. (707)429-9664. Fidonet-1:161/506, 24 hrs., 1200/2400/9600. On-line games, multiple nation-wide msg areas, free reg. Many PD files, medical and dental Q&A areas hosted by local MD & DDS. Sysop: Jim Darrought. [Exp. #71.]

The Grapevine. (707)257-2338. 24 hrs., 300/1200/2400. Sysop: Dick Wolff. [Exp. #70.]

1-800

Don's Dental Service. 1-800-872-7499. 24 hrs., 2400. For dental offices, supply ordering, CA only. Sysop: Don Carlson. [Exp. #71.]

Drug Abuse Information (DAIMP). 1-800-825-3736. 8-N-1, 24 hrs., 300/1200/2400. Drug information, statistics, bibliographies, forums, email, downloads and uploads. Free membership, reg. requested. Sysop: Greg Cason. [Exp. #70.]

OUT-OF-STATE BBSes

214

Roundabout and Owl's Nest. (214)324-2529. A BBS shared between Dallas MENSA, and the "Big D" Chapter of NAAFA. [Exp. #71.]

602

Take 3 BBS. (602)482-1001, 8-N-1, 24 hrs, 300/1200/2400. Features OnVideo, a complete guide to all home video releases, box office on-line, and an electronic motion picture magazine. Sysop: David Kidder. [Exp. #71.]

619

MACRO BBS SYSTEMS. (619)946-3055. 24 hrs., 300/1200/2400. Wildcat v. 2.0N, multi-node, on-line games, 14 download protocols, 24 message bases, all sysop's, High Desert Users Group. [Exp. #71.]

USER GROUPS

3COM

Bay Area 3Com User Group. Call: Ryan Cornin, (408)957-0943, or 354-7804. [Exp. #73.]

ACCOUNTING

Computer Associates User Group. Meetings: 1st month of quarter on 3rd Wednesdays. Holiday Inn, 1500 Van Ness. Call: Beth E. Markus, (415)864-6770. Come share ideas and information with other local users of Computer Associates Accounting Software! [Exp. #73.]

AMIGA

ALF—Amiga Learners Forum. Meetings: 3rd Sunday, 6:00 pm, Cupertino Library. Call: (408)262-9334. Beginners group. [Exp. #73.]

Amiga ACCESS (Amiga & Commodore Computer Enthusiasts Society). Meetings: 2nd Thurs., 7:00 pm, Livermore/Pleasanton. PD libraries. Call: Paul, (415)829-6053. [Exp. #73.]

ASCITEC: The Amiga Science & Technology Users Group. Meetings: 2nd Thurs., 5-7 pm, Lockheed, B/157, Rm. 4-C, Sunnyvale. Scientific/Video Applications. Classes available. Call: (408)756-4268. [Exp. #74.]

AUM—Amiga Users Of Marin. Meetings: 3rd Wed., 7:30 pm, College of Marin, Science Center, Room 190. Call: Bob Galvan, (415)924-5384.

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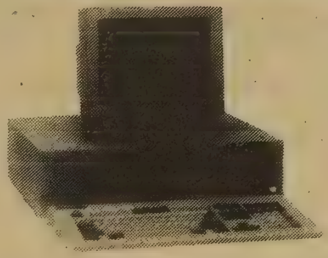

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USER GROUPS

[Exp. #74.]

AWEST Amiga Users. Meetings: 1st Wed., 7:00 pm, Computer Showcase, Geary at Masonic. Call: (415)584-8406. [Exp. #73.]

APL

APL Bay Area Users Group. Meetings: 2nd Mon., 7:00 pm, variable. Call: Tibor Horvath, (415)283-5611. [Exp. #74.]

APPLE

ABUG—Apple Blossom User Group. Meetings: Apple II Group 1st Wed., Mac Group 3rd Wed. Write for info: P.O. Box 53323, San Jose, 95123. Call: (408)395-7900. [Exp. # 74.]

Apple II SIG. Meetings: 4th Thurs., 7:30 pm, Lynbrook High, 1280 Johnson Ave. (W. San Jose). Call: Fred Bernal, (408)258-0284. [Exp. #74.]

Apple IIGS SIG. Meetings: 3rd Tue., 7:00 pm, Wilcox High, 3250 Monroe St., Santa Clara. Call: Dave Cone, (415)322-7867. [Exp. #74.]

Appleworks SIG. Meetings: 4th Tue., 7:00 pm, Wilcox High, 3250 Monroe St., Santa Clara. Call: Egon Jensen, (408)356-2660. [Exp. #74.]

Tri Valley Apple II User Group. Meetings: 1st Thurs., 6:30 pm, Call: Dan Balsey, (415)828-6237 for meeting location. [Exp. #73.]

AT&T UNIX

AT&T UNIX Users Group-North Bay. Meetings: 1st Wed. 6:00 pm, San Francisco AT&T Bldg., 50 Fremont St. Call: Joe Mahoney, (415)584-6510; BBS (415)829-6027. PM new user education. [Exp. #73.]

AT&T UNIX Users Group-South Bay. Meetings: 4th Wed., 7:00 pm, Sunnyvale AT&T Bldg., 1090 E. Duane Ave. Call: Thad Floryan, (408)985-7100 or USNET: the.cup.portal.com. PM new user education. [Exp. #73.]

AT&T UNIX Users Group-Tri-Valley. Meetings: 3rd Thurs., 6:30 pm, Pleasanton AT&T Visitors Center, 4400 Rosewood Dr. Call: Ed Novi, (415)225-2996. PM new user education. [Exp. #73.]

ATARI

ABACUS (Atari Bay Area Users Society). Meetings: 1st Sat. Call for place/time, (415)753-8483. [Exp. #74.]

ST-ACE (Atari Computer Enthusiasts). Meetings: 3rd Thurs., 7:00 pm, Baptist Church on Sebastepol Rd., Santa Rosa. Call: Hal Andersen, (707)542-1745. [Exp. #73.]

AUTOCAD

AutoCAD DCA Engineering Software Users Group. Meetings: 3rd Wed. Call for location. Call: Mike Foley, (415)734-0707. [Exp. #73.]

COMMODORE

CWEST Bay Area Commodore Users Group. Meetings: 3rd Wed., 7:00 pm, H. Hoover Mid School. Call: (415)626-9946; BBS: (415)431-4829. [Exp. #73.]

dBASE

Clipper SIG. Meetings: 3rd Tues., 8:00 pm, Ernst & Young, 55 Almaden Blvd. (Plaza Bank Bldg), San Jose. Special interest group of the Silicon Valley dBASE Language Group. Call: J.R. Whiple, (408)243-2796. [Exp. #73.]

Database Design SIG. Meetings: 3rd Tues., 7:00 pm, Ernst & Young, 55 Almaden Blvd. (Plaza Bank Bldg), San Jose. Special interest group of the Silicon Valley dBASE Language Group. Call: Mark Gerow, (408)326-3364. [Exp. #73.]

dBASE IV SIG. Meetings: 1st Tues., 7:00 pm, Ernst & Young, 55 Almaden Blvd. (Plaza Bank Bldg), San Jose. Special interest group of the Silicon Valley dBASE Language Group. Call: Fletcher Johnson, (408)283-1333. [Exp. #73.]

dBXL/Quicksilver SIG. Meetings: 3rd Tues., 8:00 pm, Ernst & Young, 55 Almaden Blvd. (Plaza Bank Bldg), San Jose. Special interest group of the Silicon Valley dBASE Language Group. Call: Karl Snydér, (408)846-1814. [Exp. #73.]

FoxBase/FoxPRO SIG. Meetings: 3rd Tues., 8:00 pm, Ernst & Young, 55 Almaden Blvd. (Plaza Bank Bldg), San Jose. Special interest group of the Silicon Valley dBASE Language Group. Call: Mark Scaramella, (408)288-8423. [Exp. #73.]

Silicon Valley dBASE Language Group. Meetings: 2nd Tues., 6:30 pm, Ernst & Young, 55 Almaden Blvd. (Plaza Bank Bldg), San Jose. A nonprofit volunteer organization dedicated to the education and development of database users and professionals. Call: Michael Masterson (408)972-4889. [Exp. #73.]

Ventura SIG/SFPCUG. Meetings: 3rd Tues., 6:30 pm, 660 Market St., Ste. 215, San Francisco. Call: (415)391-1333. [Exp. #73.]

DESKTOP PUBLISHING

Desktop Publishing SIG/SFPCUG. Meetings: 3rd Tues., 6:30 pm, 660 Market St., Ste. 215, San Francisco. Call: Phil Smith, (415)391-1333. [Exp. #73.]

EAGLE

Eagle Computer Users Group. Meetings: 2nd. Sat., 9:00-12 noon, Tandem Computer, 10435 N. Tantau Ave., Cupertino. Call: (408)972-1965. [Exp. #73.]

EPSON

Bay Area Epson Salts. Meetings: 2nd Tues., 7:30 pm, 2611 Broadway, Redwood City. Call: Joe, (415)364-9232, or Tom, (415)992-5475. [Exp. #73.]

FOCUS

NC FUSE—Northern California FOCUS Users. Meetings: quarterly. P.O. Box 61325, Sunnyvale, CA 94088-1325. Sharing FOCUS knowledge and experience. [Exp. #73.]

GENEALOGY

Family Roots Genealogy Program User Group. Meetings: Jan, March, May, July, Sept, & Nov. For info: Joseph L. Rick, 135 Leslie Drive, San Carlos, CA 94070-3459. Include SASE. [Exp. #74.]

IBM AND COMPATIBLES

Basic SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)952-3450. [Exp. #73.]

Beginners SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)211-9166. [Exp. #73.]

Columbia SIG/SFPCUG. Meetings: 3rd. Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)566-0587. [Exp. #73.]

Desktop Publishing SIG/SFPCUG. Meetings: 3rd Tues., 6:30 pm, 660 Market St., Ste. 215, San Francisco. Call: (415)391-1333. [Exp. #73.]

Investment Software Association, a SIG of San Francisco Business Computers. Meetings: 4th Tues., 5:30 pm, Donatello Hotel at Post and Mason. Call: (415)788-5388. [Exp. #73.]

Lotus SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)282-4100. [Exp. #73.]

MS Word SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)929-1993. [Exp. #73.]

Napa Valley PC Users Group. Meetings: 2nd Wed., 7:30 pm, Buck's lower plaza, 10 Chapel Hill Dr. Call: Bob Kulas, (707)255-9241. [Exp. #73.]

New Users SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)457-0729. [Exp. #73.]

P.I.E. IBM And Compatibles SIG. Meetings: 3rd Wed., 7:30 pm, General Disk Corp., 1530 Montague Expy. Call: Clay Walker, (408)736-7704. [Exp. # 74.]

PC Clone Users Group. Meetings: 2nd Mon., 7:00 pm, Fort Mason Center, Bldg. E, Rm. 287. BBS: (415)621-8425. Call: (415)861-9321. [Exp. #73.]

PC Professionals SIG/SFPCUG. Meetings: 2nd Thurs., 6:15 pm, Call: Kendall Callas, (415)821-1310. [Exp. #73.]

Peninsula Computer Club—"Kay-Fun." Meetings: 2nd Thurs. 7:30 pm, Social Room, Lauren St., San Carlos. CP/M and DOS libraries. Call: BBS: (415)571-9259. Voice: 593-9981. [Exp. #73.]

San Francisco Business Computers. Meetings: 4th Tues., 5:30 pm, Donatello Hotel at Post and Mason. Call: (415)788-5388. [Exp. #73.]

San Francisco Computer Society. Meetings: 1st Mon., 1350 7th Ave., San Francisco. Call: (415)929-0250. [Exp. # 74.]

San Francisco PC Users Group. Meetings: 3rd Mon., 3145 Geary Blvd., Ste. 155, San Francisco. Call: (415)221-9166. [Exp. #73.]

Teachers SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)982-4221. [Exp. #73.]

TRS Nybblers. Meetings: 2nd Fri., 8:00 pm, Chabot College, Bldg 1560. MS-DOS, UNIX, OS-9, CP/M. BBS (415)352-8442. Call: Ken Bailey, (415)462-4442. [Exp. #74.]

WordPerfect SIG/SFPCUG. Meetings: 3rd Mon., 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)821-1310. [Exp. #73.]

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Bay HPX HP Laptops & Handhelds. Meetings: 2nd Sat., Call: Michael Felsenstein, (415)564-8279. [Exp. #74.]

MACINTOSH

AHUG—Apple Hypercard Users Group. Meetings: 1st Fri. 700 pm, Cupertino. Guest speakers & stack downloading. Call: (408)974-1707 [Exp. # 74.]

MacDiablo Macintosh Users Group (MDUG). Meetings: 4th Wed., 7:30 pm, Community Rm., Glendale Federal Bank, 3001 Crow Canyon Rd., San Ramon. Call: Harvey Scudder, (415)828-4995., Rym Maggiora, 829-5501. [Exp. #73.]

Macintosh Application Group. Meetings: TBA. Call: (415)751-9185. Main focus is application support for the user and language programming, all levels. Newsletter is in the making. [Exp. #73.]

North Coast Mac Users Group. Meetings: 3rd Wed, 7:30 pm, Sonoma State University, Darwin Hall, Rm. 108. Not a student organization, annual dues for individuals and businesses. Call: Reed Hopkins, (707)542-1089. [Exp. #74.]

P.I.E. Macintosh SIG. Meetings: 2nd Thurs., 7:00 pm, Institute of Computer Technology, 1196 Lime Drive, Sunnyvale. Call: John Alston, (408)735-8247. [Exp. #74.]

MULTIMEDIA

The International Interactive Society—IICS. Meetings: 2nd Tues., 7:00 pm, UCSF Laurel Heights Conference Center. Call: (415)328-7318.

ORACLE

San Francisco Oracle User Group. Meetings: 2nd. Wed. Various locations. Call: (415)894-4549. [Exp. #73.]

PROGRAMMING LANGUAGES

Basic SIG/SFPCUG. Meetings: 6:30 pm, UCSF, 3333 California St., San Francisco. Call: (415)952-3450. [Exp. #73.]

Fourth Interest Group Of North Bay. Meetings: 3rd Sat., 1-5 pm, 2055 Center St., Berkeley. Tutorial at noon. Call: Leonard Morgenstern, (415)376-5241. [Exp. #73.]

R:BASE

Peninsula R:Base User Group (PR:BUG). Meetings: 2 Meadowsweet Lane, San Carlos. Call: (415)592-5033. [Exp. #73.]

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PROFESSIONAL ASSOCIATIONS

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Rracsa, For Sysops & Users. Meetings: 2nd Tuesdays, 6:30 pm, CoCo's Restaurant, 1305 S. Mary, Sunnyvale. Call: Irv Hoff, (415) 948-2166. [Exp #73.]

United Sysop's Association! (USA!). Meetings: 2nd Wednesday. 7:00 pm. Vahl's Restaurant, 1513 El Dorado St., Alviso. An organization for Bulletin Boards sysops and users. Call: (408) 453-3321, or Ring-of-Fire BBS, (408)453-33256. [Exp #73.]

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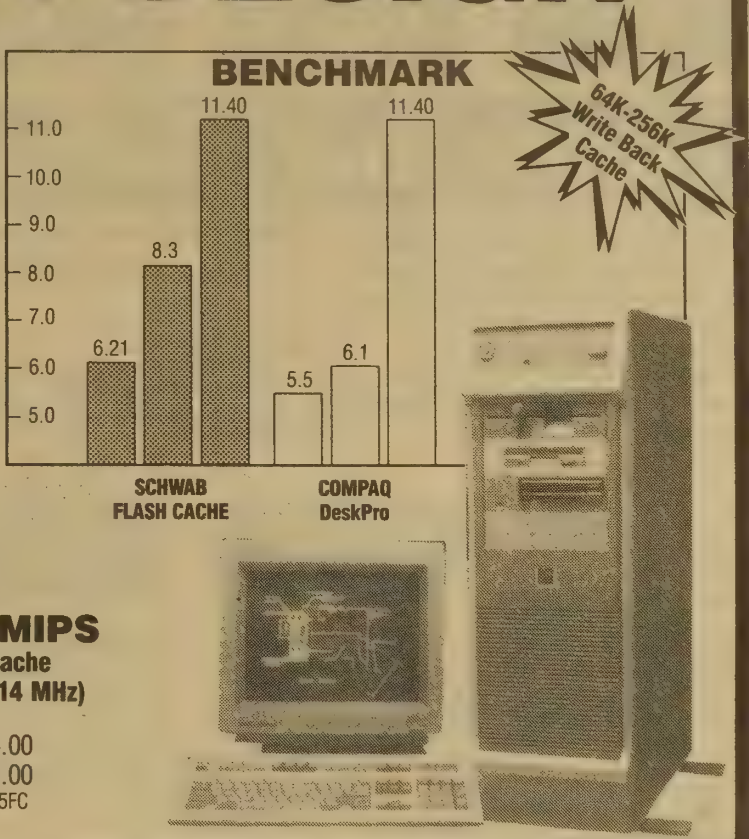

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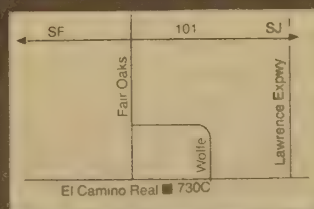

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5.25" 360K	70

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DTC 5160	65

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8087-10	150
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80387-20	355
80387-25	460
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2MB	275
4MB	400
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2MB	245
PACIFIC DATA	
POSTSCRIPT IIP	365
HPGL	245
HEADLINE	245
172 FONTS	265
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1180	178
1191	230
1124	289
1624	449
LASER	1349
FUJITSU	
RX7100 LASER	849
DL3400 132col,300cps	469
STAR	
NX1000II	175
RAINBOW	219

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GAME CARD	16
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PENDA I/O	38
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LOGITECH	
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C-9 MOUSE	69
TRACKMAN	95
EVEREX	
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2400+	149
EXT. 2400E	169
EXT. 2400E+	199

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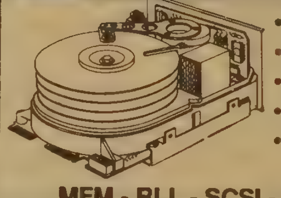

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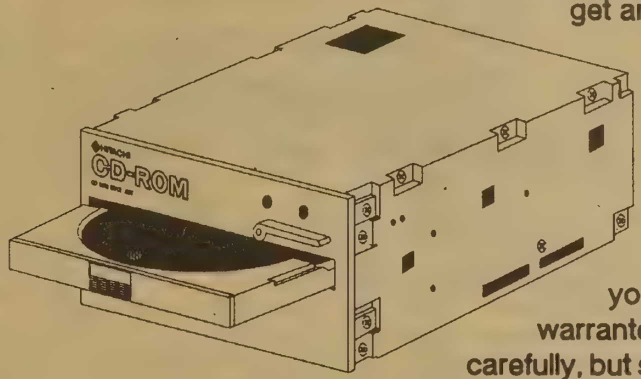

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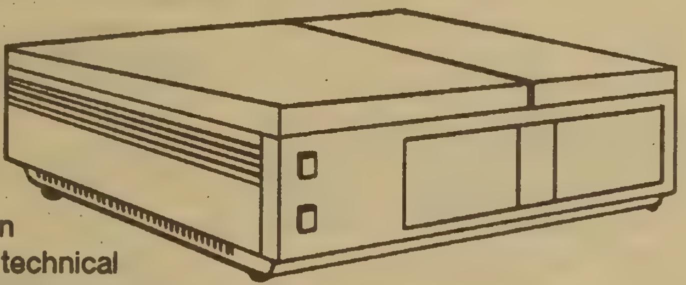

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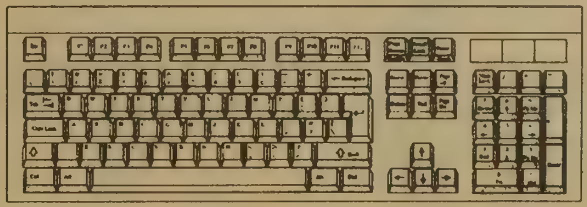

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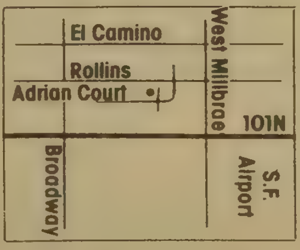

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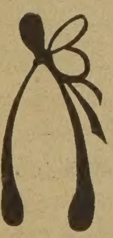

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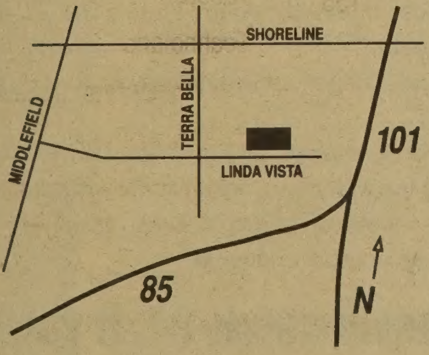

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Another Dvorak Nightmare

Lifestyles Of The Rich And Famous

BY JOHN C. DVORAK

Everyone is preoccupied with rich guys in Silicon Valley. Ever since I wrote last month's article with the open letter to super-rich guy Bill Gates and plain-rich guy Steve Jobs, I've had other magazines asking me to do more of the same. One editor suggested that I do a whole column suggesting to Gates how he spend his money. Sounds like consulting work to me.

I thought about all this, and realized how great it is that Gates in particular and many of the other rich guys in the computer business don't bore us stiff with ludicrous conspicuous consumption. Instead, they go to work each day and continue to do what they did to get rich in the first place.

I've had more guys say to me, "Gee, John, how can these guys go to work? Why do they bother? If I had a mere $100 million I'd be outta here." Of course these gadflies who would be shopping for an island to buy if they had the money will never have the money with that attitude.

It's a classic catch-22. If you have what it takes to be a Bill Gates, then you are stuck being Bill Gates. Gates is always working. Sure, sometimes he sneaks off to Japan and eats a piece of fish, but he's not planning on buying Costa Rica or anything like that.

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I'm grateful. Most of the big shots in the industry who spend their money on wild women and gold-plated toilet fixtures are insufferable bores.

The CEOs-From-Hell Dream

Nonetheless, it didn't prevent me from having a nightmare where our heroes all turned into free-spending lunatics.

It was Gates, smoking the biggest Havana cigar I've ever seen, who pointed up at the Lear Jet. "Look, it's Manzi's new jet! He's flying it, too!" The jet zoomed over the 200-foot anchored motor cruiser and did a barrel roll as it turned and headed for the nearby landing strip Gates had built near Lake Washington.

Within a few minutes a skip was seen coming from the shore. It was bringing Jim Manzi to the boat.

"Hey Manzi, you old son of a gun," yelled Gates at the approaching vessel. He grabbed a nearby bottle of Dom Perignon from a huge silver wine bucket filled with a couple of cases of the stuff. "Here Dvorak, shake this up. We'll give this bozo a wet welcome." Gates laughed and suddenly choked for a second, blowing the hot ash off of his new cigar. "Damn, I just lit it!" He threw it over the side and grabbed another bottle of champagne.

"The trick is to get all this crap off the bottle first." Gates took off the lead foil and the wire holding in the cork. "Then shake it like this." He shook the bottle violently and suddenly with a blast the cork blew out of the container and hit the top of the skip. "Wow, I almost nailed him! Here, Dvorak, you need a drink. Hahahaha!" He dumped the remaining contents of the bottle over my head. He then threw the bottle at the boat as it tied up with the yacht.

The bottle crashed against the stern of the boat, spewing glass all over. Manzi ducked when he saw the bottle coming and came up holding a flare gun. "Hey, Bill! Look out!" Just as he shouted he launched the flare, which shot past Gates's head, barely missing. The flare hit the door to one of the cabins and exploded into flames. Almost instantly, six crewmen with fire extinguishers foamed the area, making an ungodly mess.

Gates leaned over to me and whispered. "He always does that. Look what I have. This will get him. Haha!" With his back to Manzi, who was now coming on board, Gates showed me a stun gun. "This baby has been really juiced up. I think I've got it wired for a few million volts. Watch his reaction."

"I'm here, let the parteeeee begin!" said Manzi as he approached Gates, who turned and fired before Manzi could do much of anything but watch as two little hooks shot from the stun gun and attached themselves to his thigh. "What the..." Manzi was about to speak as Gates pushed the button of the device.

It sounded like a shot from a .44 Magnum as the surge of high voltage hit him like a ton of bricks. He flew straight up about 12 feet and spun in mid air, then came crashing to the deck. Every muscle in his body was in spasm, and he flopped around the deck like a salmon.

Gates pushed the button to the stun gun again, but nothing happened. "Damn, it must have killed it." He threw the device at Manzi and it bounced off his head. Suddenly Manzi, like a chicken with its head cut off, jumped up and ran full speed the length of the boat and right over the side.

"Damn," said Gates. "Did you see that? I guess we should fish him out."

He motioned to a crew member to get a gaff and pull out Manzi. Just then Steve Jobs came up from below deck. He brought up with him John Sculley, completely tied up and gagged. Sculley, with so many ropes on him he looked like a mummy, hopped up the steps following Jobs, who held a leash hooked to a dog collar around Sculley's neck. "Check this out!" shouted Jobs. "Let's make him walk the plank."

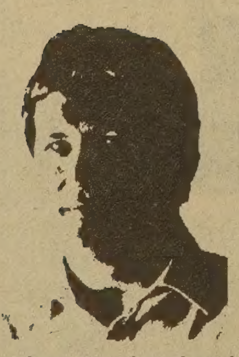
Suddenly I noticed all sorts of computer guys on board. Rod Canion, Mitch Kapor, Philippe Kahn, everyone seemed to be on this thing, and they were now all chanting, "Walk the plank! Walk the plank!"

As they chanted, Sculley tripped and fell onto a control console near the side of the yacht, triggering a mechanism that opened the roof of the boat to reveal a bank of guided missiles. Philippe looked at the rockets, pulled out a .45, and fired it into the air, shouting "Let's shoot some missiles!"

Jobs began to kick Sculley, then looked over at me. "Let's tie Dvorak to one of them!"

"Dvorak, Dvorak, Dvorak," chanted the crowd. Gates threw another cigar into the water and looked at me with a smirk on his face.

It's then that I woke up in a cold sweat. Man, am I'm glad we're keeping these guys busy working. ■



John C. Dvorak graduated from the University of California. He is a contributing editor of PC Magazine and MacUser, and is considered by many to epitomize the contrarian view of things—a charge that he vehemently denies. Dvorak's motto is: If you have nothing nice to say, then don't say anything at all.

It's a classic catch-22. If you have what it takes to be a Bill Gates, then you are stuck being Bill Gates. Gates is always working. Sure, sometimes he sneaks off to Japan and eats a piece of fish, but he's not planning on buying Costa Rica or anything like that.

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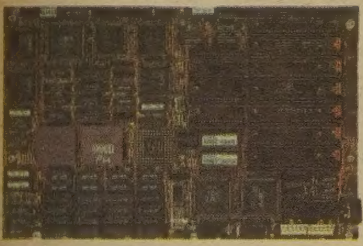

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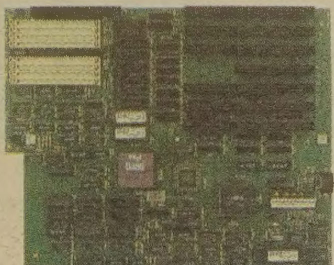

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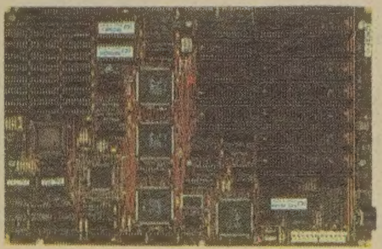

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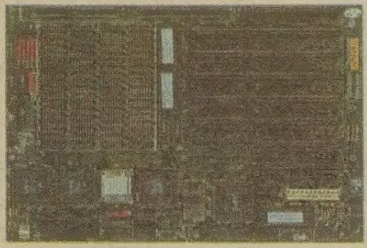

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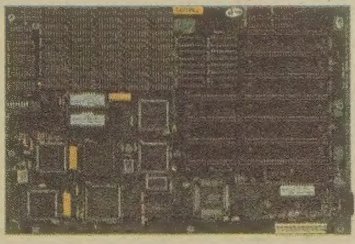

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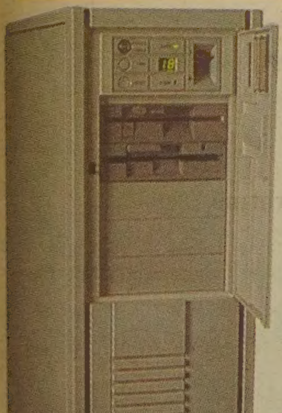

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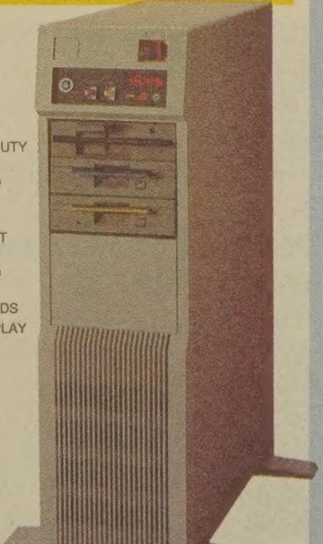

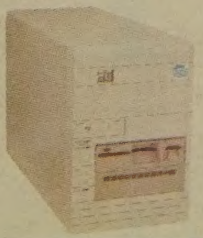

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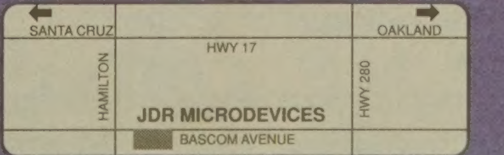

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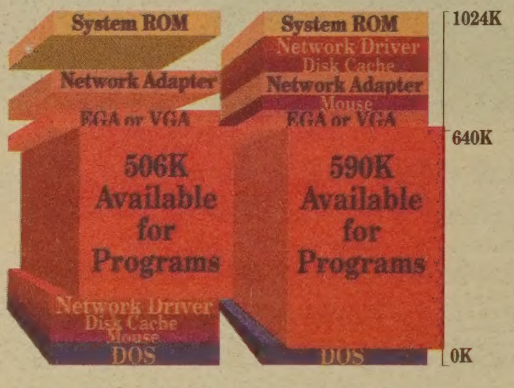

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